```
FILE 'HOME' ENTERED AT 19:39:51 ON 19 NOV 2009

=> file capl
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.22       0.22

FILE 'CAPLUS' ENTERED AT 19:40:34 ON 19 NOV 2009
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FILE COVERS 1907 - 19 Nov 2009  VOL 151 ISS 21
FILE LAST UPDATED: 18 Nov 2009  (20091118/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED:  Aug 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE:  Aug 2009

CAplus now includes complete International Patent Classification (IPC)
reclassification data for the third quarter of 2009.

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This file contains CAS Registry Numbers for easy and accurate
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in the CA/CAplus family databases for free!  Complete details on the
number of free displays and other databases participating in this
offer appear in NEWS 10.

=> e 2006-591658/an
E1            1     2005:999998/AN
E2            1     2005:999999/AN
E3            0 --> 2006-591658/AN
E4            1     2006:1/AN
E5            1     2006:10/AN
E6            1     2006:100/AN
E7            1     2006:1000/AN
E8            1     2006:10000/AN
E9            1     2006:100000/AN
E10           1     2006:1000000/AN
E11           1     2006:1000001/AN
E12           1     2006:1000002/AN

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E16          1     AD2002-10243254/PRN
E17          1     AD2003-352770/PRN
E18          1     AD96-96199356/PRN
E19          1     AE2000-40/PRN
E20          1     AE2002-1210727/PRN
E21          1     AE2003-186/PRN
E22          1     AE2003-274/PRN

=> s 2006-591658/apps
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             0 2006-591658/PRN
L1           0 2006-591658/APPS
               (2006-591658/AP,PRN)

=> e 2006-591658/app
'APP' IS NOT A VALID EXPAND FIELD CODE FOR FILE 'CAPLUS'
The indicated field code is not available for EXPAND in this
file.  To see a list of valid EXPAND field codes, enter HELP
SFIELDS at an arrow prompt (=>).

=> e 2007-591658/apps
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E41          1     AE2003-186/PRN
E42          1     AE2003-274/PRN

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E43      13525     RP/DT
E44     322820     T/DT
E45          0 --> WO 2005084665/DT
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         14535 PORPHYRIN/TI
          9196 PORPHYRINS/TI
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         23282 PORPHYRIN/TI
                 ((PORPHYRIN OR PORPHYRINS)/TI)
L2           1 NIOSOME (5A) PORPHYRIN/TI

=> d ibib

L2   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER:         2005:1004559  CAPLUS <<LOGINID::20091119>>
DOCUMENT NUMBER:          143:292573
TITLE:                    Niosome having metal porphyrin
                          complex embedded therein, process for producing the
                          same and drug with the use thereof
INVENTOR(S):              Yuasa, Makoto; Oyaizu, Kenichi; Yamaguchi, Aritomo;
                          Hanyuu, Yukihiro; Kasahara, Kazunori; Komuro, Masayasu
PATENT ASSIGNEE(S):       Japan
SOURCE:                   PCT Int. Appl., 40 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 Japanese
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
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     WO 2005084665         A1    20050915    WO 2004-JP2750          20040304
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
             LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
             NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
             TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
             BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,
             ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
             SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN,
             TD, TG
     EP 1731150            A1    20061213    EP 2004-717289          20040304
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             IT, LI, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR
     CN 1942184            A     20070404    CN 2004-80042914        20040304
     KR 2007008623         A     20070117    KR 2006-720709          20061002
     US 20080269184        A1    20081030    US 2007-591658          20070815
PRIORITY APPLN. INFO.:                       WO 2004-JP2750      W   20040304
OTHER SOURCE(S):          MARPAT 143:292573
REFERENCE COUNT:          18    THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS
                                RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT


=> select L2
ENTER ANSWER NUMBER OR RANGE (1-):1
ENTER DISPLAY CODE (TI) OR ?:rn
E46 THROUGH E75 ASSIGNED

=> d e46-e75
'E46-E75' IS NOT A VALID ACCESSION NUMBER

The number entered is not a valid accession number in this file.
Enter "HELP ACCESSION" at an arrow prompt (=>) for a list of valid
accession number formats in the current file.

=> s e46-e75
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          5005 1121-60-4/BI
          6673 1338-43-8/BI
           141 143-02-2/BI
            90 143-03-3/BI
         22319 143-07-7/BI
           307 14982-53-7/BI
          1399 151-41-7/BI
          1188 313-04-2/BI
          2462 361-09-1/BI
            61 40904-90-3/BI
           141 4754-44-3/BI
           399 516-95-0/BI
         27253 544-63-8/BI
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         66074 57-11-4/BI
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            12 65028-70-8/BI
          7327 67-97-0/BI
          6316 691397-13-4/BI
            43 71794-64-4/BI
            56 72924-08-4/BI
           782 7789-46-0/BI
          2682 80-97-7/BI
             3 823808-59-9/BI
             1 864444-61-1/BI
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                313-04-2/BI OR 361-09-1/BI OR 40904-90-3/BI OR 4754-44-3/BI OR
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                -65-6/BI OR 9005-67-8/BI)

=> FIL REGISTRY

COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                                80.51      80.73

FILE 'REGISTRY' ENTERED AT 19:43:57 ON 19 NOV 2009
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DICTIONARY FILE UPDATES:  18 NOV 2009  HIGHEST RN 1192748-82-5

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http://www.cas.org/support/stngen/stndoc/properties.html

=> S 864444-61-1/RN

L4 1 864444-61-1/RN

=> SET NOTICE 1 DISPLAY

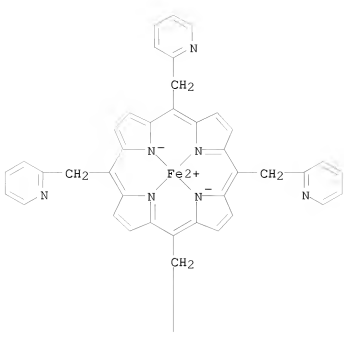
NOTICE SET TO 1 U.S. DOLLAR FOR DISPLAY COMMAND
SET COMMAND COMPLETED

=> D L4 SQIDE 1-

YOU HAVE REQUESTED DATA FROM 1 ANSWERS - CONTINUE? Y/(N):y
THE ESTIMATED COST FOR THIS REQUEST IS 6.85 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y

L4 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2009 ACS on STN
RN 864444-61-1 REGISTRY
CN Iron, [5,10,15,20-tetrakis(2-pyridinylmethyl)-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-, (SP-4-1)- (9CI) (CA INDEX NAME)
MF C44 H32 Fe N8
CI CCS
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
DT.CA CAplus document type: Patent
RLD.P Roles for non-specific derivatives from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

PAGE 1-A



PAGE 2-A

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> SET NOTICE LOGIN DISPLAY

NOTICE SET TO OFF FOR DISPLAY COMMAND
SET COMMAND COMPLETED

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=> FIL REGISTRY

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	2.53	83.26

FILE 'REGISTRY' ENTERED AT 19:44:17 ON 19 NOV 2009

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DICTIONARY FILE UPDATES: 18 NOV 2009 HIGHEST RN 1192748-82-5

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=> S 823808-59-9/RN

L5   1 823808-59-9/RN

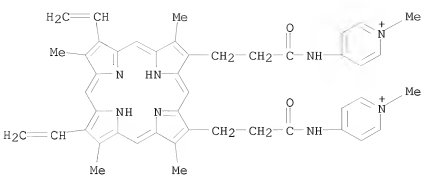
=> SET NOTICE 1 DISPLAY

NOTICE SET TO 1 U.S. DOLLAR FOR DISPLAY COMMAND
SET COMMAND COMPLETED

=> D L5 SQIDE 1-

YOU HAVE REQUESTED DATA FROM 1 ANSWERS - CONTINUE? Y/(N):y
THE ESTIMATED COST FOR THIS REQUEST IS 6.85 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y

L5   ANSWER 1 OF 1 REGISTRY COPYRIGHT 2009 ACS on STN
RN   823808-59-9 REGISTRY
CN   Pyridinium, 4,4'-[(7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-
     2,18-diyl)bis[(1-oxo-3,1-propanediyl)imino]]bis[1-methyl- (9CI) (CA INDEX
     NAME)
MF   C46 H48 N8 O2
SR   CA
LC   STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
DT.CA CAplus document type: Patent
RL.P   Roles from patents: PREP (Preparation); RACT (Reactant or reagent)
RLD.P Roles for non-specific derivatives from patents: BIOL (Biological
       study); USES (Uses)



3 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> SET NOTICE LOGIN DISPLAY

NOTICE SET TO OFF FOR DISPLAY COMMAND
SET COMMAND COMPLETED

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=> FIL REGISTRY

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	2.53	85.79

FILE 'REGISTRY' ENTERED AT 19:44:33 ON 19 NOV 2009
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DICTIONARY FILE UPDATES: 18 NOV 2009 HIGHEST RN 1192748-82-5

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http://www.cas.org/support/stngen/stndoc/properties.html

=> S 65028-70-8/RN

L6 1 65028-70-8/RN

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=> SET NOTICE 1 DISPLAY

NOTICE SET TO 1 U.S. DOLLAR FOR DISPLAY COMMAND
SET COMMAND COMPLETED

=> D L6 SQIDE 1-

YOU HAVE REQUESTED DATA FROM 1 ANSWERS - CONTINUE? Y/(N):y
THE ESTIMATED COST FOR THIS REQUEST IS 6.85 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y

L6   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2009 ACS on STN
RN   65028-70-8  REGISTRY
CN   Manganese(4+), [[2,2',2'',2'''-(21H,23H-porphine-5,10,15,20-
     tetrayl)tetrakis[1-methylpyridiniumato]](2-)-
     κN21,κN22,κN23,κN24]-, (SP-4-1)-  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Pyridinium, 2,2',2'',2'''-(21H,23H-porphine-5,10,15,20-tetrayl)tetrakis[1-
     methyl-, manganese complex
MF   C44 H36 Mn N8
CI   CCS, COM
LC   STN Files:   CA, CAPLUS, TOXCENTER, USPAT2, USPATFULL
DT.CA  CAplus document type:  Journal; Patent
RL.P   Roles from patents:  BIOL (Biological study); FORM (Formation,
       nonpreparative); PROC (Process); PRP (Properties); PRPH (Prophetic);
       USES (Uses)
RLD.P  Roles for non-specific derivatives from patents:  BIOL (Biological
       study); PREP (Preparation); USES (Uses)
RL.NP  Roles from non-patents:  BIOL (Biological study); FORM (Formation,
       nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties);
       RACT (Reactant or reagent); USES (Uses)
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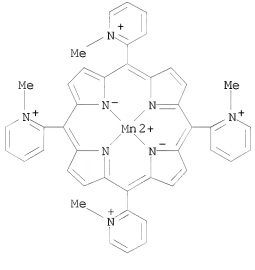


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**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

                12 REFERENCES IN FILE CA (1907 TO DATE)
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1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
12 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> SET NOTICE LOGIN DISPLAY

NOTICE SET TO OFF FOR DISPLAY COMMAND
SET COMMAND COMPLETED

=>

=> FIL REGISTRY

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	2.53	88.32

FILE 'REGISTRY' ENTERED AT 19:44:51 ON 19 NOV 2009
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STRUCTURE FILE UPDATES: 18 NOV 2009 HIGHEST RN 1192748-82-5
DICTIONARY FILE UPDATES: 18 NOV 2009 HIGHEST RN 1192748-82-5

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experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> S 40904-90-3/RN

L7 1 40904-90-3/RN

=> SET NOTICE 1 DISPLAY

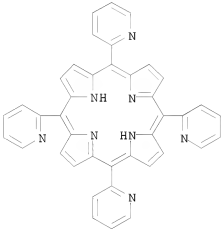
NOTICE SET TO 1 U.S. DOLLAR FOR DISPLAY COMMAND
SET COMMAND COMPLETED

=> D L7 SQIDE 1-

YOU HAVE REQUESTED DATA FROM 1 ANSWERS - CONTINUE? Y/(N):y
THE ESTIMATED COST FOR THIS REQUEST IS 6.85 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y

L7 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2009 ACS on STN
RN 40904-90-3 REGISTRY
CN 21H,23H-Porphine, 5,10,15,20-tetra-2-pyridinyl- (CA INDEX NAME)
OTHER NAMES:

CN 5,10,15,20-Tetra-2-pyridylporphine
CN 5,10,15,20-Tetrakis(2-pyridyl)porphyrin
CN meso-Tetra-2-pyridylporphine
CN meso-Tetrakis(2-pyridyl)porphyrin
CN meso-Tetrakis(o-pyridyl)porphine
MF C40 H26 N8
CI COM
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, CHEMCATS, TOXCENTER, USPAT2, USPATFULL
      (*File contains numerically searchable property data)
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)
RL.NP Roles from non-patents: BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
RLD.NP Roles for non-specific derivatives from non-patents: PREP (Preparation); RACT (Reactant or reagent)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

61 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
61 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> SET NOTICE LOGIN DISPLAY

NOTICE SET TO OFF FOR DISPLAY COMMAND
SET COMMAND COMPLETED

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=> FIL REGISTRY

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	2.53	90.85

```
FILE 'REGISTRY' ENTERED AT 19:45:16 ON 19 NOV 2009
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DICTIONARY FILE UPDATES:  18 NOV 2009  HIGHEST RN 1192748-82-5

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REGISTRY includes numerically searchable data for experimental and
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on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> S 71794-64-4/RN

L8            1 71794-64-4/RN

=> SET NOTICE 1 DISPLAY

NOTICE SET TO 1 U.S. DOLLAR FOR DISPLAY COMMAND
SET COMMAND COMPLETED

=> D L8 SQIDE 1-

YOU HAVE REQUESTED DATA FROM 1 ANSWERS - CONTINUE? Y/(N):y
THE ESTIMATED COST FOR THIS REQUEST IS 6.85 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y

L8   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2009 ACS on STN
RN   71794-64-4  REGISTRY
CN   Iron(4+), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl-
     κN21,κN22,κN23,κN24)tetrakis[1-
     methylpyridiniumato]](2-)]-, (SP-4-1)- (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Iron(4+), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl)tetrakis[1-
     methylpyridiniumato]](2-)-N21,N22,N23,N24]-, (SP-4-1)-
CN   Pyridinium, 4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl)tetrakis[1-
     methyl-, iron complex
MF   C44 H36 Fe N8
CI   CCS, COM
LC   STN Files:   CA, CAPLUS, GMELIN*, TOXCENTER, USPATFULL
       (*File contains numerically searchable property data)
DT.CA  CAplus document type:  Dissertation; Journal; Patent; Report
RL.P   Roles from patents:  PROC (Process)
RLD.P  Roles for non-specific derivatives from patents:  BIOL (Biological
       study); PREP (Preparation); USES (Uses)
RL.NP  Roles from non-patents:  ANST (Analytical study); BIOL (Biological
       study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP
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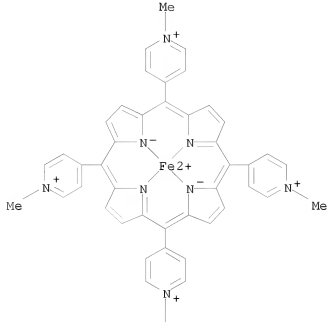
(Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

PAGE 1-A



PAGE 2-A

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

43 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
43 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> SET NOTICE LOGIN DISPLAY

NOTICE SET TO OFF FOR DISPLAY COMMAND
SET COMMAND COMPLETED

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=> FIL REGISTRY

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	2.53	93.38

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STRUCTURE FILE UPDATES:   18 NOV 2009  HIGHEST RN 1192748-82-5
DICTIONARY FILE UPDATES:  18 NOV 2009  HIGHEST RN 1192748-82-5

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TSCA INFORMATION NOW CURRENT THROUGH June 26, 2009.

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> S 72924-08-4/RN

L9            1 72924-08-4/RN

=> SET NOTICE 1 DISPLAY

NOTICE SET TO 1 U.S. DOLLAR FOR DISPLAY COMMAND
SET COMMAND COMPLETED

=> D L9 SQIDE 1-

YOU HAVE REQUESTED DATA FROM 1 ANSWERS - CONTINUE? Y/(N):y
THE ESTIMATED COST FOR THIS REQUEST IS 6.85 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y

L9   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2009 ACS on STN
RN   72924-08-4  REGISTRY
CN   Manganese(4+), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl-
     κN21,κN22,κN23,κN24)tetrakis[1-
     methylpyridiniumato]](2-)]-, (SP-4-1)-  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Manganese(4+), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-
     tetrayl)tetrakis[1-methylpyridiniumato]](2-)-N21,N22,N23,N24]-, (SP-4-1)-
CN   Pyridinium, 4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl)tetrakis[1-
     methyl-, manganese complex
DR   72923-97-8
MF   C44 H36 Mn N8
CI   CCS, COM
LC   STN Files:   CA, CAPLUS, GMELIN*, TOXCENTER, USPAT2, USPATFULL
        (*File contains numerically searchable property data)
DT.CA  CAplus document type:  Journal; Patent; Report
RL.P   Roles from patents:  BIOL (Biological study); FORM (Formation,
       nonpreparative); PREP (Preparation); PRP (Properties); PRPH (Prophetic);
       USES (Uses)
RLD.P  Roles for non-specific derivatives from patents:  BIOL (Biological
       study); PREP (Preparation); USES (Uses)
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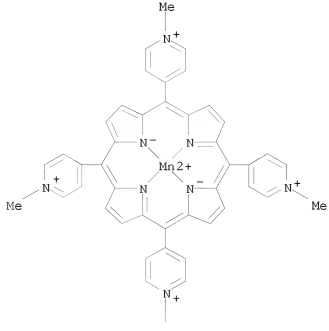
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
RLD.NP Roles for non-specific derivatives from non-patents: BIOL (Biological study); PRP (Properties); USES (Uses)

PAGE 1-A



PAGE 2-A

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

56 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
56 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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NOTICE SET TO OFF FOR DISPLAY COMMAND
SET COMMAND COMPLETED

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=> FIL REGISTRY

COST IN U.S. DOLLARS SINCE FILE TOTAL

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                                                    ENTRY    SESSION
FULL ESTIMATED COST                                  2.53      95.91

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STRUCTURE FILE UPDATES:   18 NOV 2009  HIGHEST RN 1192748-82-5
DICTIONARY FILE UPDATES:  18 NOV 2009  HIGHEST RN 1192748-82-5

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 26, 2009.

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> S 143-03-3/RN

L10          1 143-03-3/RN

=> SET NOTICE 1 DISPLAY

NOTICE SET TO 1 U.S. DOLLAR FOR DISPLAY COMMAND
SET COMMAND COMPLETED

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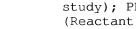
YOU HAVE REQUESTED DATA FROM 1 ANSWERS - CONTINUE? Y/(N):y
THE ESTIMATED COST FOR THIS REQUEST IS 6.85 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y

L10  ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2009 ACS on STN
RN   143-03-3  REGISTRY
CN   Sulfuric acid, monooctadecyl ester  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Octadecyl sulfate (6CI, 7CI)
OTHER NAMES:
CN   n-Octadecyl sulfate
CN   Stearyl sulfate
MF   C18 H38 O4 S
CI   COM
LC   STN Files:   AGRICOLA, BEILSTEIN*, BIOSIS, CA, CAPLUS, CHEMLIST, CIN,
       IFICDB, IFIPAT, IFIUDB, TOXCENTER, USPAT2, USPATFULL, USPATOLD
         (*File contains numerically searchable property data)
     Other Sources:  EINECS**, NDSL**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA  CAplus document type:  Conference; Journal; Patent
RL.P   Roles from patents:  ANST (Analytical study); BIOL (Biological study);
       PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
```

RLD.P Roles for non-specific derivatives from patents: BIOL (Biological
       study); PREP (Preparation); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological
       study); PREP (Preparation); PROC (Process); PRP (Properties); RACT
       (Reactant or reagent); USES (Uses); NORL (No role in record)
RLD.NP Roles for non-specific derivatives from non-patents: PREP
       (Preparation); PRP (Properties)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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               9 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
              90 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> SET NOTICE LOGIN DISPLAY

NOTICE SET TO OFF FOR DISPLAY COMMAND
SET COMMAND COMPLETED

=>

=> s l5 or l6 or l7 or l8 or l9
L11   5 L5 OR L6 OR L7 OR L8 OR L9

=> d l11 ibib hitstr abs
'IBIB' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'
'HITSTR' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'
'ABS' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'

The following are valid formats:

Substance information can be displayed by requesting individual
fields or predefined formats. The predefined substance formats
are: (RN = CAS Registry Number)

REG   - RN
SAM   - Index Name, MF, and structure - no RN
FIDE   - All substance data, except sequence data
IDE   - FIDE, but only 50 names
SQIDE - IDE, plus sequence data
SQIDE3 - Same as SQIDE, but 3-letter amino acid codes are used
SQD   - Protein sequence data, includes RN
SQD3   - Same as SQD, but 3-letter amino acid codes are used
SQN   - Protein sequence name information, includes RN

EPROP - Table of experimental properties
PPROP - Table of predicted properties
PROP   - EPROP, ETAG, PPROP and SPEC

Any CA File format may be combined with any substance format to
obtain CA references citing the substance. The substance formats
must be cited first. The CA File predefined formats are:

ABS -- Abstract

APPS -- Application and Priority Information
BIB -- CA Accession Number, plus Bibliographic Data
CAN -- CA Accession Number
CBIB -- CA Accession Number, plus Bibliographic Data (compressed)
IND -- Index Data
IPC -- International Patent Classification
PATS -- PI, SO
STD -- BIB, IPC, and NCL

IABS -- ABS, indented, with text labels
IBIB -- BIB, indented, with text labels
ISTD -- STD format, indented

OBIB -------- AN, plus Bibliographic Data (original)
OIBIB ------- OBIB, indented with text labels

SBIB -------- BIB, no citations
SIBIB ------- IBIB, no citations

The ALL format gives FIDE BIB ABS IND RE, plus sequence data when
it is available.
The MAX format is the same as ALL.
The IALL format is the same as ALL with BIB ABS and IND indented,
with text labels.

For additional information, please consult the following help
messages:

HELP DFIELDS -- To see a complete list of individual display fields.
HELP FORMATS -- To see detailed descriptions of the predefined formats.
ENTER DISPLAY FORMAT (IDE):reg
1   RN   823808-59-9 REGISTRY

=> file capl
COST IN U.S. DOLLARS   SINCE FILE   TOTAL
                                                       ENTRY   SESSION
FULL ESTIMATED COST   3.74   99.65

FILE 'CAPLUS' ENTERED AT 19:47:41 ON 19 NOV 2009
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FILE COVERS 1907 - 19 Nov 2009 VOL 151 ISS 21
FILE LAST UPDATED: 18 Nov 2009 (20091118/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Aug 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Aug 2009

CAplus now includes complete International Patent Classification (IPC)

reclassification data for the third quarter of 2009.

CAS Information Use Policies apply and are available at:

http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate
substance identification.

During November, try the new LSUS format of legal status information
in the CA/CAplus family databases for free! Complete details on the
number of free displays and other databases participating in this
offer appear in NEWS 10.

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L12         147 L11

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             12 L6
             43 L8
             56 L9
L13          93 L4 OR L6 OR L8 OR L9

=> s l12 or l13
L14         147 L12 OR L13

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            516 NIOSOMES
            536 NIOSOME*
                  (NIOSOME OR NIOSOMES)
          41710 LIPOSOME
          54193 LIPOSOMES
          62338 LIPOSOME
                  (LIPOSOME OR LIPOSOMES)
          54193 "LIPOSOMES"
         369220 "PHARMACEUTICAL"
          94712 "PHARMACEUTICALS"
         425843 "PHARMACEUTICAL"
                  ("PHARMACEUTICAL" OR "PHARMACEUTICALS")
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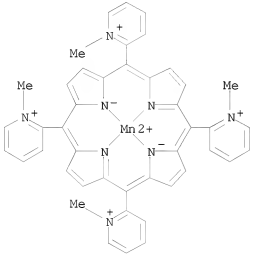
           6100 "PHARMACEUTICAL LIPOSOMES"
                  ("PHARMACEUTICAL"(W)"LIPOSOMES")
L15           3 L13 AND (NIOSOME* OR LIPOSOME  OR "LIPOSOMES" OR "PHARMACEUTICAL
                LIPOSOMES")

=> d 1-3 ibib hitstr abs

L15  ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER:         2007:133674  CAPLUS <<LOGINID::20091119>>
DOCUMENT NUMBER:          147:371446
TITLE:                    Antioxidant and anticancer properties of
                          metalloporphyrins embedded in liposomes
AUTHOR(S):                Yuasa, Makoto; Oyaizu, Kenichi; Murata, Hidenori;
                          Sahara, Yoshizumi; Hatsugai, Tomomi; Ogata, Akihiko
CORPORATE SOURCE:         Department of Pure and Applied Chemistry, Faculty of
                          Science and Technology, Tokyo University of Science,
                          Noda, 278-8510, Japan
SOURCE:                   Journal of Oleo Science (2007), 56(2), 87-93
                          CODEN: JOSOAP; ISSN: 1345-8957
```

PUBLISHER: Japan Oil Chemists' Society
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
IT 65028-70-8
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antioxidant and anticancer properties of metalloporphyrins embedded in liposomes)
RN 65028-70-8 CAPLUS
CN Manganese(4+), [[2,2',2'',2'''-(21H,23H-porphine-5,10,15,20-tetrayl)tetrakis[1-methylpyridiniumato]](2-)-κN21,κN22,κN23,κN24]-, (SP-4-1)- (CA INDEX NAME)



AB Reactive oxygen species (ROS) are implicated in many disease such as inflammation, arteriosclerosis, cancer. Therefore, a water-soluble cationic metalloporphyrins with SOD activity are studied widely as antioxidant drugs. Further, liposomes are applied to drug delivery system (DDS) as drug carriers and investigated for example disposition and stability. We designed PEG modified liposomes for avoiding reticuloendothelial system (RES) and embedded cationic metalloporphyrins for DDS, evaluated antioxidant and anticancer property. Preservation of these particle size measured DLS in an in vitro system, in order to simulate in vivo conditions of flow. Result of this measurement, we found Pluronic F-68/ liposomes have a long circulation property, and avoid fusion with plasma protein. SOD activity was determined by the stopped-flow anal. and cytochrome c assay, which allowed the evaluation of kcat and IC50 for the reaction with a superoxide anion radical (·O2-). Anti cancer property was measured by cell viability test. We found that F-68/ liposomes were the most effective catalyst as antioxidant and anticancer. These results revealed that porphyrin-embedded PEG-liposomes had the property of long circulation in blood and that this compound was effective as a SOD model compound with a drug carrier capacity.

L15 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:1004559 CAPLUS <<LOGINID::20091119>>
DOCUMENT NUMBER: 143:292573
TITLE: Niosome having metal porphyrin complex

embedded therein, process for producing the same and drug with the use thereof

INVENTOR(S): Yuasa, Makoto; Oyaizu, Kenichi; Yamaguchi, Aritomo; Hanyuu, Yukihiro; Kasahara, Kazunori; Komuro, Masayasu

PATENT ASSIGNEE(S): Japan

SOURCE: PCT Int. Appl., 40 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005084665	A1	20050915	WO 2004-JP2750	20040304
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1731150	A1	20061213	EP 2004-717289	20040304
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LI, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
CN 1942184	A	20070404	CN 2004-80042914	20040304
KR 2007008623	A	20070117	KR 2006-720709	20061002
US 20080269184	A1	20081030	US 2007-591658	20070815

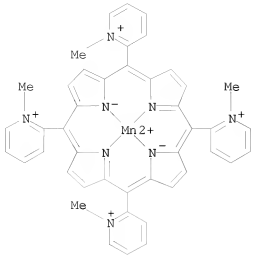
PRIORITY APPLN. INFO.: WO 2004-JP2750 W 20040304

OTHER SOURCE(S): MARPAT 143:292573

IT 65028-70-8DP, ion complexes with anionic surfactants
71794-64-4DP, ion complexes with anionic surfactants
72924-08-4DP, ion complexes with anionic surfactants
864444-61-1DP, ion complexes with anionic surfactants
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(niosome having metal porphyrin complex embedded therein, process for producing the same and drug with the use thereof)

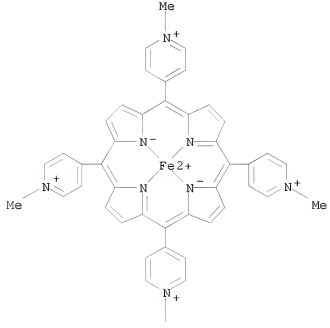
RN 65028-70-8 CAPLUS

CN Manganese(4+), [[2,2',2'',2'''-(21H,23H-porphine-5,10,15,20-tetrayl)tetrakis[1-methylpyridiniumato]](2-)-κN21,κN22,κN23,κN24]-, (SP-4-1)- (CA INDEX NAME)



RN 71794-64-4 CAPLUS
CN Iron(4+), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl-κN21,κN22,κN23,κN24)tetrakis[1-methylpyridiniumato]](2-)]-, (SP-4-1)- (9CI) (CA INDEX NAME)

PAGE 1-A

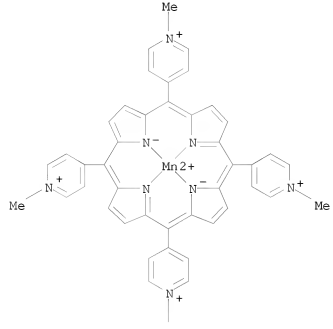


PAGE 2-A

Me

RN 72924-08-4 CAPLUS
CN Manganese(4+), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl-κN21,κN22,κN23,κN24)tetrakis[1-methylpyridiniumato]](2-)]-, (SP-4-1)- (CA INDEX NAME)

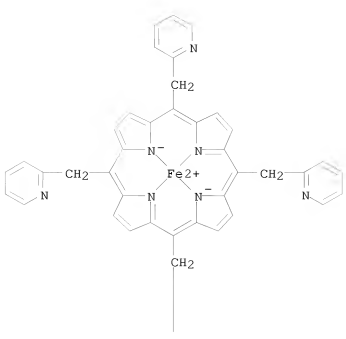
PAGE 1-A



PAGE 2-A

RN 864444-61-1 CAPLUS
CN Iron, [5,10,15,20-tetrakis(2-pyridinylmethyl)-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-, (SP-4-1)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

AB Disclosed is a niosome having a metal porphyrin complex embedded therein which contains a cationized metal porphyrin complex and a niosome-forming substance. This niosome having a metal porphyrin complex embedded therein has an SOD activity and can target super oxide anion radical (O2-.) and surely decrease it. Because of being in the form of a niosome, it can be delivered to, for example, a cancer cell in vivo. Therefore, it can decrease O2-. in a cancer cell and exert an excellent effect of treating cancer. Moreover, it shows a selective effect and, therefore, is usable as a novel anticancer agent with no side effect. In addition, it can be hold in the blood, which makes it favorable as an antioxidant. Owing to this characteristic, it can protect the living body from in vivo disorders caused by active oxygen. For example, iron[5,10,15,20-tetrakis(2-methylpyridyl)porphyrin] was prepared, and mixed with stearic acid metal salt to form an ion complex of the porphyrin. Then, the ion complex was mixed with tween-61 and cholesterol to form a niosome to exam for its antitumor activity and antioxidant activity in vitro.

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

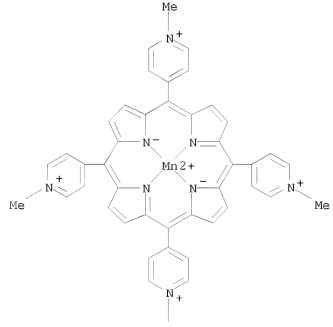
L15 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:34446 CAPLUS <<LOGINID::20091119>>

DOCUMENT NUMBER: 142:141238
TITLE: Metal porphyrin complex-embedded liposomes for pharmaceuticals
INVENTOR(S): Yuasa, Makoto; Matsukura, Noriyoshi; Yamaguchi, Aritomo; Kawakami, Hiroyoshi; Nagaoka, Shoji; Abe, Masahiko; Takebayashi, Hitoshi; Horiuchi, Aiko; Ogata, Akihiko; Sakaya, Takeshi
PATENT ASSIGNEE(S): Makoto Yuasa, Japan
SOURCE: U.S. Pat. Appl. Publ., 20 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 20050008687	A1	20050113	US 2004-788263		20040301
JP 2005041869	A	20050217	JP 2004-200163		20040707
PRIORITY APPLN. INFO.:			JP 2003-193138	A	20030707
			JP 2003-193139	A	20030707

OTHER SOURCE(S): MARPAT 142:141238
IT 72924-08-4P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(metal porphyrin complex-embedded liposomes for pharmaceuticals)
RN 72924-08-4 CAPLUS
CN Manganese(4+), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl-κN21,κN22,κN23,κN24)tetrakis[1-methylpyridiniumato]](2-)]-, (SP-4-1)- (CA INDEX NAME)

PAGE 1-A



Me

AB A metalloporphyrin-complex-embedded liposome comprising a cationic metalloporphyrin complex and a lipid having liposome -forming ability is disclosed. As metalloporphyrin-complex-embedded liposomes act on superoxide anion radicals (O2-), and can surely lower their concentration, they can exhibit superb effects for the treatment of cancers and have excellent characteristics as antioxidants. Thus, iron[5,10,15,20-tetrakis(2-methylpyridyl)porphyrin] was prepared starting from 2-pyridylcarboxaldehyde and pyrrole followed by reaction with FeBr2 of the resulting porphyrin and methylation. Liposomes were obtained from the above complex and stearic acid.

```
=> s l14 and (niosome* or liposome  OR "Liposomes" OR "Pharmaceutical liposomes")
           379 NIOSOME
           516 NIOSOMES
           536 NIOSOME*
                 (NIOSOME OR NIOSOMES)
         41710 LIPOSOME
         54193 LIPOSOMES
         62338 LIPOSOME
                 (LIPOSOME OR LIPOSOMES)
         54193 "LIPOSOMES"
        369220 "PHARMACEUTICAL"
         94712 "PHARMACEUTICALS"
        425843 "PHARMACEUTICAL"
                 ("PHARMACEUTICAL" OR "PHARMACEUTICALS")
         54193 "LIPOSOMES"
          6100 "PHARMACEUTICAL LIPOSOMES"
                 ("PHARMACEUTICAL"(W)"LIPOSOMES")
L16         3 L14 AND (NIOSOME* OR LIPOSOME  OR "LIPOSOMES" OR "PHARMACEUTICAL
              LIPOSOMES")

=>  s "Surfactants" (L) "nonionic"
        198609 "SURFACTANTS"
         81574 "NONIONIC"
           546 "NONIONICS"
         81756 "NONIONIC"
                 ("NONIONIC" OR "NONIONICS")
L17      44526 "SURFACTANTS" (L) "NONIONIC"

=> s l17 and l14
L18          1 L17 AND L14

=> d ibib

L18  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER:         2005:1004559  CAPLUS <<LOGINID::20091119>>
DOCUMENT NUMBER:          143:292573
TITLE:                    Niosome having metal porphyrin complex embedded
                          therein, process for producing the same and drug with
                          the use thereof
INVENTOR(S):              Yuasa, Makoto; Oyaizu, Kenichi; Yamaguchi, Aritomo;
```

Hanyuu, Yukihiro; Kasahara, Kazunori; Komuro, Masayasu
PATENT ASSIGNEE(S): Japan
SOURCE: PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005084665	A1	20050915	WO 2004-JP2750	20040304
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1731150	A1	20061213	EP 2004-717289	20040304
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LI, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
CN 1942184	A	20070404	CN 2004-80042914	20040304
KR 2007008623	A	20070117	KR 2006-720709	20061002
US 20080269184	A1	20081030	US 2007-591658	20070815

PRIORITY APPLN. INFO.: WO 2004-JP2750 W 20040304
OTHER SOURCE(S): MARPAT 143:292573
REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> e superoxide dismutase/IT
E98 1 SUPEROXIDDISMUTASE/IT
E99 68841 SUPEROXIDE/IT
E100 0 --> SUPEROXIDE DISMUTASE/IT
E101 68 SUPEROXIDEDISMUTASE/IT
E102 1 SUPEROXIDEE/IT
E103 1 SUPEROXIDEHYDRATE/IT
E104 498 SUPEROXIDES/IT
E105 1 SUPEROXIDIE/IT
E106 1 SUPEROXIDIZE/IT
E107 19 SUPEROXIDIZED/IT
E108 2 SUPEROXIDIZERS/IT
E109 5 SUPEROXIDIZING/IT

=> s superoxide dismutase or superoxidedismutase
92304 SUPEROXIDE
1077 SUPEROXIDES
92662 SUPEROXIDE
(SUPEROXIDE OR SUPEROXIDES)
60169 DISMUTASE
1744 DISMUTASES
60394 DISMUTASE
(DISMUTASE OR DISMUTASES)
59969 SUPEROXIDE DISMUTASE
(SUPEROXIDE(W)DISMUTASE)
86 SUPEROXIDEDISMUTASE

```
L19      60026 SUPEROXIDE DISMUTASE OR SUPEROXIDEDISMUTASE

=> s (cancer OR "Neoplasm" or malignan*)
        431221 CANCER
         63290 CANCERS
        446802 CANCER
                 (CANCER OR CANCERS)
        569861 "NEOPLASM"
         38387 "NEOPLASMS"
        587139 "NEOPLASM"
                 ("NEOPLASM" OR "NEOPLASMS")
             2 MALIGNAN*
L20     738805 (CANCER OR "NEOPLASM" OR MALIGNAN*)

=> help roles

 CAS roles are CAS indexing terms consisting of codes that describe
 the new or novel information reported about a substance or a class of
 compounds.  Specific roles have 3-letter codes.  Super roles have
 4-letter codes.  Super roles are automatically generated from the
 specific roles, and are upposted for searching.

 To search a role for a specific substance, append the CAS Registry
 Number or a Registry File L-number answer set with a slash and the
 code for the role, e.g., 67-68-5/THU.  To search more than one role,
 separate a list of roles by commas and no spaces, e.g.,
 67-68-5/THU,ADV.  Only one role may be appended to an L-number answer
 set.  Use the OR operator to apply multiple roles to an L-number,
 e.g., S L1/THU OR L1/ADV.

 To search roles assigned to index headings for classes of compounds,
 follow the heading with a slash and the role or roles separated by
 commas, e.g., PHENOLS/POL,REM.

 Roles are displayed in the RL (Role) field within the IT (Index Term)
 field.  Roles are included in any display format that contains the IT
 or RL field.  Enter SET ROLES OFF at an arrow prompt (=>) to suppress
 display of codes and text for roles.  Enter SET ROLES CODES to
 display only codes.  Enter SET ROLES TEXT to return to default
 display (codes and names).  Enter HELP SET ROLES at an arrow prompt
 for more information.

 Enter HELP THESAURUS and HELP RCODE at an arrow prompt in this file
 for information on using the role thesaurus to find role definitions
 and narrower and broader terms.

 In the following list, under each super role are listed the specific
 roles that generate the super role.

 List of CAS Roles (1)


 ANST  Analytical Study

 ANT   Analyte
 AMX   Analytical Matrix
 ARG   Analytical Reagent Use
 ARU   Analytical Role, Unclassified

 BIOL  Biological Study
```

ADV Adverse Effect, Including Toxicity
AGR Agricultural Use
BAC Biological Activity or Effector, Except Adverse (2)
BCP Biochemical Process (3)
BMF Bioindustrial Manufacture
BOC Biological Occurrence (2)
BPN Biosynthetic Preparation
BPR Biological Process (2)
BSU Biological Study, Unclassified
BUU Biological Use, Unclassified
COS Cosmetic Use (3)
DGN Diagnostic Use (3)
DMA Drug Mechanism of Action (3)
FFD Food or Feed Use
MFM Metabolic Formation (2)
NPO Natural Product Occurrence (3)
PAC Pharmacological Activity (3)
PKT Pharmacokinetics (3)
THU Therapeutic Use

CMBI Combinatorial Study (3)

CPN Combinatorial Preparation (3)
CRT Combinatorial Reactant (3)
CRG Combinatorial Reagent (3)
CST Combinatorial Study (3)
CUS Combinatorial Use (3)

FORM Formation, Nonpreparative

FMU Formation, Unclassified
GFM Geological or Astronomical Formation
MFM Metabolic Formation (2)

NANO Nanomaterial (4)

OCCU Occurrence

BOC Biological Occurrence (2)
GOC Geological or Astronomical Occurrence
NPO Natural Product Occurrence (3)
OCU Occurrence, Unclassified
POL Pollutant

PREP Preparation (5)

BMF Bioindustrial Manufacture
BPN Biosynthetic Preparation
BYP Byproduct
CPN Combinatorial Preparation (3)
IMF Industrial Manufacture
PUR Purification or Recovery
PNU Preparation, Unclassified (6)
SPN Synthetic Preparation

PROC Process

BCP Biochemical Process (3)
BPR Biological Process (2)

GPR Geological or Astronomical Process
PEP Physical, Engineering, or Chemical Process
CPS Chemical Process (7)
EPR Engineering Process (7)
PYP Physical Process (7)
REM Removal or Disposal

PRPH Prophetic Substance (8)

RACT Reactant or Reagent (2,7)

RCT Reactant (9)
CRT Combinatorial Reactant (3)
RGT Reagent (3)
CRG Combinatorial Reagent (3)

USES Uses

AGR Agricultural Use
ARG Analytical Reagent Use
BUU Biological Use, Unclassified
CAT Catalyst Use
COS Cosmetic Use (3)
CUS Combinatorial Use (3)
DGN Diagnostic Use (3)
FFD Food or Feed Use
MOA Modifier or Additive Use
NUU Other Use, Unclassified (10)
POF Polymer in Formulation
TEM Technical or Engineered Material Use
THU Therapeutic Use

Specific roles that are not upposted to any super roles:

MSC Miscellaneous
PRP Properties

(1) Super roles have 4-letter codes. Specific roles have 3-letter codes. Under each super role are listed the corresponding specific roles that are retrieved when you search that super role.
(2) Used from CA Vol. 66 (1967) to Vol. 135 (2001)
(3) Used starting with CA Vol. 136 (2002)
(4) Used starting with records in 1992.
(5) The PREP super role has been added to records back to 1907.
(6) Used from CA vol. 66 (1967) to vol. 145 (2006).
(7) Used from CA vol. 136 (2002) to CA vol. 145 (2006).
(8) Used starting with records from 2003.
(9) Searching the RCT (Reactant) role retrieves references from CA Vol. 66 (1967) to the present. Searching the RACT (Reactant or Reagent) super role retrieves references with the CRT, CRG, RGT, or RCT references starting with CA Vol. 136 (2002).
(10) Starting with CA Vol. 136 (2002), the searchable text for the NUU role changed from NONBIOLOGICAL USE, UNCLASSIFIED/RL to OTHER USE, UNCLASSIFIED/RL. Search the code NUU/RL to retrieve records from CA Vol. 66 (1967) to the present.

=> s l14 and (thu/rl or pac/rl)
1186665 THU/RL

```
        510158 PAC/RL
L21          28 L14 AND (THU/RL OR PAC/RL)

=> s l21 and (l10 or l20)
            90 L10
<------User Break------>

SEARCH ENDED BY USER

=> s l21 and (l19 or l20)
L22          21 L21 AND (L19 OR L20)

=> d 1-21 ibib hitstr abs

L22  ANSWER 1 OF 21  CAPLUS  COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER:         2009:858783  CAPLUS <<LOGINID::20091119>>
DOCUMENT NUMBER:          151:164326
TITLE:                    A method using a peroxynitrite decomposition agent or
                          other agent for prevention of contrast-induced
                          nephropathy
INVENTOR(S):              Fink, Mitchell P.
PATENT ASSIGNEE(S):       Inotek Pharmaceuticals Corporation, USA
SOURCE:                   PCT Int. Appl., 99pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
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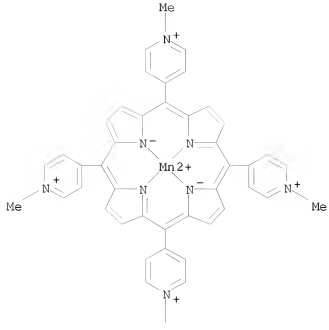
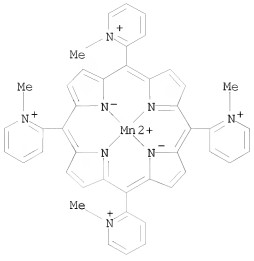
     WO 2009088860        A2    20090716    WO 2008-US88538        20081230
         W:  AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
             CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES,
             FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE,
             KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
             ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH,
             PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ,
             TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU,
             IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK,
             TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
             TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
             AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
     US 20090257999       A1    20091015    US 2008-317922         20081230
PRIORITY APPLN. INFO.:                     US 2007-9600P       P  20071231
OTHER SOURCE(S):          MARPAT 151:164326
IT   72924-08-4
     RL: PAC (Pharmacological activity); PRPH (Prophetic); THU
     (Therapeutic use); BIOL (Biological study); USES (Uses)
        (inhibitors; peroxynitrite decomposition agent or other agent for prevention
        of contrast-induced nephropathy)
RN   72924-08-4  CAPLUS
CN   Manganese(4+), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl-
     κN21,κN22,κN23,κN24)tetrakis[1-
     methylpyridiniumato]](2-)]-, (SP-4-1)-  (CA INDEX NAME)
```

PAGE 1-A



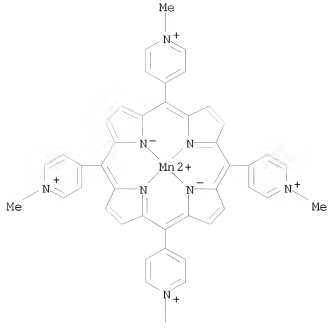
PAGE 2-A

IT 65028-70-8
RL: PAC (Pharmacological activity); PRPH (Prophetic); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(peroxynitrite decomposition agent or other agent for prevention of contrast-induced nephropathy)
RN 65028-70-8 CAPLUS
CN Manganese(4+), [[2,2',2'',2'''-(21H,23H-porphine-5,10,15,20-tetrayl)tetrakis[1-methylpyridiniumato]](2-)-κN21,κN22,κN23,κN24]-, (SP-4-1)- (CA INDEX NAME)



AB The invention discloses methods for preventing contrast-induced nephropathy, including administering an effective amount of a compound (e.g., a peroxynitrite decomposition agent, a PARP inhibitor or a superoxide dismutase mimic) to a subject to be administered a contrast agent.

L22 ANSWER 2 OF 21 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2009:313094 CAPLUS <<LOGINID::20091119>>
DOCUMENT NUMBER: 150:571865
TITLE: Protective effects of the complex between manganese porphyrins and catalase-poly(ethylene glycol) conjugates against hepatic ischemia/reperfusion injury in vivo
AUTHOR(S): Hanawa, Tomochika; Asayama, Shoichiro; Watanabe, Taiji; Owada, Shigeru; Kawakami, Hiroyoshi
CORPORATE SOURCE: Department of Applied Chemistry, Tokyo Metropolitan University, 1-1 Minami-Osawa, Hachioji, Tokyo, 192-0397, Japan
SOURCE: Journal of Controlled Release (2009), 135(1), 60-64
CODEN: JCREEC; ISSN: 0168-3659
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 72924-08-4D, complexes with PEGylated catalase
RL: PAC (Pharmacological activity); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(protective effects of complex between manganese porphyrins and catalase-poly(ethylene glycol) conjugates against hepatic ischemia/reperfusion injury in vivo)
RN 72924-08-4 CAPLUS
CN Manganese(4+), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl-κN21,κN22,κN23,κN24)tetrakis[1-methylpyridiniumato]](2-)]-, (SP-4-1)- (CA INDEX NAME)



AB The complex between manganese (Mn) porphyrins and catalase-poly(ethylene glycol) (PEG) conjugates has been designed for the protective effect against hepatic ischemia/reperfusion injury in vivo. The resulting Mn-porphyrin/catalase-PEG complex with dual enzymic activity of superoxide dismutase (SOD) and catalase enhanced the blood circulation. The spin reduction rate in the rats treated with the Mn-porphyrin/catalase-PEG complex was significantly higher than that in the untreated rats and almost equal to that in the sham group rats. Furthermore, the Mn-porphyrin/catalase-PEG complex significantly decreased the serum aspartate aminotransferase (AST) and alanine aminotransferase (ALT) levels. These results suggest that the Mn-porphyrin/catalase-PEG complex exhibited the antioxidative activity to protect hepatic ischemia/reperfusion injury in vivo.

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 3 OF 21 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2008:943879 CAPLUS <<LOGINID::20091119>>
DOCUMENT NUMBER: 149:238277
TITLE: meso-Tetrakis(N-organopyridinio)porphyrins as peroxynitrite decomposition catalysts for treatment of diseases
INVENTOR(S): Groves, John T.
PATENT ASSIGNEE(S): Princeton University, USA
SOURCE: PCT Int. Appl., 54 pp.

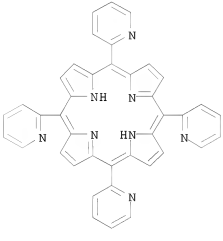
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008094222	A2	20080807	WO 2007-US21445	20071005
WO 2008094222	A3	20090226		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA

PRIORITY APPLN. INFO.: US 2006-850179P P 20061006
OTHER SOURCE(S): MARPAT 149:238277
IT 40904-90-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of tetrakis(N-organopyridinio)porphyrins and -metalloporphyrins as peroxynitrite decomposition catalysts for treatment of peroxynitrite-related diseases)
RN 40904-90-3 CAPLUS
CN 21H,23H-Porphine, 5,10,15,20-tetra-2-pyridinyl- (CA INDEX NAME)



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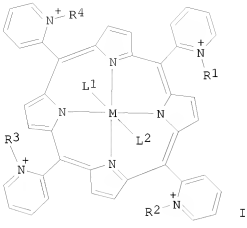


I

AB This invention provides a novel class of substituted macrocyclic meso-tetrakis(N-organopyridinio)porphyrin compds. I (M = absent, Fe, Mn; L1, L2 are independently absent, halide, oxo aqua, hydroxo, cyano, etc.; R1-R4 are independently H or a wide variety of organo groups). The compds. are useful as peroxynitrite decomposition catalysts. Pharmaceutical compns., and methods of making and using the compds., or a pharmaceutically acceptable salt, hydrate, or prodrug thereof are also described. The compds. are useful in lowering peroxynitrite levels in a cell or tissue for treatment of a variety of diseases related to physiol. damage caused by peroxynitrite.

L22 ANSWER 4 OF 21 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2007:359012 CAPLUS <<LOGINID::20091119>>
DOCUMENT NUMBER: 146:371386
TITLE: Iron and manganese N-benzyl-substituted meso-tetrakis(pyridyl)porphyrin compounds containing amino acid residues and their use as pharmaceuticals
INVENTOR(S): Williams, William
PATENT ASSIGNEE(S): Inotek Pharmaceuticals Corporation, USA
SOURCE: U.S. Pat. Appl. Publ., 59pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070072825	A1	20070329	US 2006-528082	20060926
AU 2006294655	A1	20070405	AU 2006-294655	20060926
CA 2622988	A1	20070405	CA 2006-2622988	20060926
WO 2007038630	A2	20070405	WO 2006-US37742	20060926
WO 2007038630	A3	20071025		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,

IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA

EP 1928467 A2 20080611 EP 2006-815616 20060926

R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR

JP 2009510083 T 20090312 JP 2008-533585 20060926

IN 2008DN03241 A 20080704 IN 2008-DN3241 20080421

ZA 2008003580 A 20090128 ZA 2008-3580 20080423

PRIORITY APPLN. INFO.: US 2005-721388P P 20050928

WO 2006-US37742 W 20060926

OTHER SOURCE(S): CASREACT 146:371386; MARPAT 146:371386

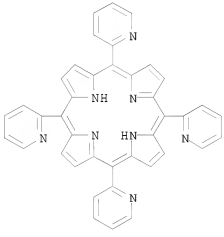
IT 40904-90-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of iron/manganese N-benzyl-substituted meso-tetrakis(pyridyl)porphyrins containing amino acid residues as pharmaceuticals)

RN 40904-90-3 CAPLUS

CN 21H,23H-Porphine, 5,10,15,20-tetra-2-pyridinyl- (CA INDEX NAME)



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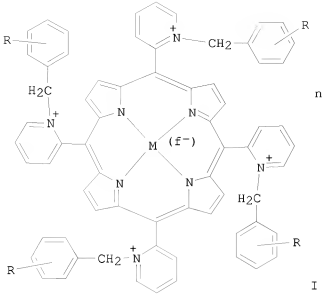

AB The present invention relates to iron and manganese N-benzyl-substituted meso-tetrakis(pyridyl)porphyrins I [M = Fe, Mn; f = 0 or 1; R = -C(O)(amino acid residue) or -SO2(amino acid residue); n = appropriate number of counterions], compns. comprising an effective amount of I, and methods involving I for treating or preventing injury due to exposure to a reactive species, erectile dysfunction, urinary incontinence, lung disease, hyperoxia, neurodegenerative disease, liver disease, myocardial damage during cardioplegia, an inflammatory condition, a reperfusion injury, an ischemic condition, a cardiovascular disease, diabetes, a diabetic complication, cancer, a side effect of cancer chemotherapy, osteoarthritis, or a radiation-induced injury, and methods for prolonging the half-life of an oxidation-prone compound (hyaluronic acid).

L22 ANSWER 5 OF 21 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2007:349823 CAPLUS <<LOGINID::20091119>>
DOCUMENT NUMBER: 146:330841
TITLE: Novel antioxidant compositions containing complexes of catalase and metalloporphyrin
INVENTOR(S): Kawakami, Hiroyoshi; Asayama, Shoichiro
PATENT ASSIGNEE(S): Tokyo Metropolitan University, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 28pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007075058	A	20070329	JP 2005-270285	20050916
PRIORITY APPLN. INFO.:			JP 2005-270285	20050916

OTHER SOURCE(S): MARPAT 146:330841
IT 72924-08-4DP, catalase conjugates with polyethylenglycol
RL: CAT (Catalyst use); PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(novel antioxidant compns. containing complexes of catalase and metalloporphyrin)

RN 72924-08-4 CAPLUS

CN Manganese(4+), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl-κN21,κN22,κN23,κN24)tetrakis[1-methylpyridiniumato]](2-)]-, (SP-4-1)- (CA INDEX NAME)

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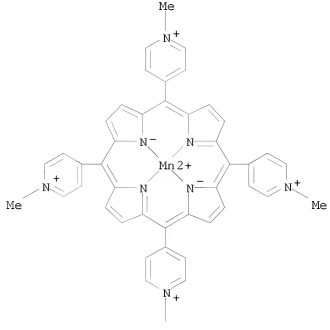

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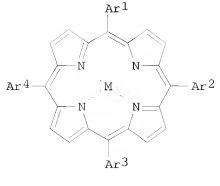


I

AB Compns. containing complexes of catalase and metalloporphyrin have been developed as novel antioxidant agents. The compns. consist of human catalase conjugates with hydrophilic polymers (polyethyleneglycol) and metalloporphyrin I (Ar1-4 = aromatic groups with(out) substitutions consist of carbon or heterocyclic rings; at least one of Ar1-4 has cationic group). At least one of Ar1, Ar2, Ar3 and Ar4 is N-lower alkyl-4-pyridyl group such as N-methyl-4-pyridyl or 4-N,N,N-tri-lower-alkylaminophenyl group such as 4-N,N,N-trimethylaminophenyl. The metal in the cationic metalloporphyrin is iron, copper or manganese. Prepared Mn-Tetramethylpyridylporphyrin catalase complex showed superoxide dismutase and catalase activities. Prepared complex showed effective antioxidant activities when it was appled to living HepG cells. Prepared complex maintains sufficient blood concentration over the long time and in vivo antioxidant activity when it was administered into rat.

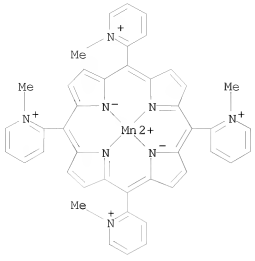
L22 ANSWER 6 OF 21 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER:	2007:133674 CAPLUS <<LOGINID::20091119>>
DOCUMENT NUMBER:	147:371446
TITLE:	Antioxidant and anticancer properties of metalloporphyrins embedded in liposomes
AUTHOR(S):	Yuasa, Makoto; Oyaizu, Kenichi; Murata, Hidenori; Sahara, Yoshizumi; Hatsugai, Tomomi; Ogata, Akihiko
CORPORATE SOURCE:	Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Noda, 278-8510, Japan
SOURCE:	Journal of Oleo Science (2007), 56(2), 87-93 CODEN: JOSOAP; ISSN: 1345-8957
PUBLISHER:	Japan Oil Chemists' Society
DOCUMENT TYPE:	Journal
LANGUAGE:	Japanese

IT 65028-70-8
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antioxidant and anticancer properties of metalloporphyrins embedded in liposomes)

RN 65028-70-8 CAPLUS

CN Manganese(4+), [[2,2',2'',2'''-(21H,23H-porphine-5,10,15,20-tetrayl)tetrakis[1-methylpyridiniumato]](2-)-κN21,κN22,κN23,κN24]-, (SP-4-1)- (CA INDEX NAME)



AB Reactive oxygen species (ROS) are implicated in many disease such as inflammation, arteriosclerosis, cancer. Therefore, a water-soluble cationic metalloporphyrins with SOD activity are studied widely as antioxidant drugs. Further, liposomes are applied to drug delivery system (DDS) as drug carriers and investigated for example disposition and stability. We designed PEG modified liposomes for avoiding reticuloendothelial system (RES) and embedded cationic metalloporphyrins for DDS, evaluated antioxidant and anticancer property. Preservation of these particle size measured DLS in an in vitro system, in order to simulate in vivo conditions of flow. Result of this measurement, we found Pluronic F-68/ liposomes have a long circulation property, and avoid fusion with plasma protein. SOD activity was determined by the stopped-flow anal. and cytochrome c assay, which allowed the evaluation of kcat and IC50 for the reaction with a superoxide anion radical (·O2-). Anti cancer property was measured by cell viability test. We found that F-68/ liposomes were the most effective catalyst as antioxidant and anticancer. These results revealed that porphyrin-embedded PEG-liposomes had the property of long circulation in blood and that this compound was effective as a SOD model compound with a drug carrier capacity.

L22 ANSWER 7 OF 21 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:1228621 CAPLUS <<LOGINID::20091119>>
DOCUMENT NUMBER: 146:13166
TITLE: Compositions and methods of treatment for inflammatory diseases
INVENTOR(S): Harty, Richard F.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 18pp., Cont.-in-part of U.S. Ser. No. 23,812.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20060264409	A1	20061123	US 2006-397024	20060403
US 20050159396	A1	20050721	US 2004-23812	20041228
US 7417037	B2	20080826		

AU 2004314731	A1	20050811	AU 2004-314731		20041228
CA 2553775	A1	20050811	CA 2004-2553775		20041228
EP 1722630	A2	20061122	EP 2004-815911		20041228
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR					
IN 2006DN04763	A	20070831	IN 2006-DN4763		20060818
PRIORITY APPLN. INFO.:			US 2004-537766P	P	20040120
			US 2004-23812	A2	20041228
			WO 2004-US43921	W	20041228

IT 72924-08-4
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(compns. and methods of treatment for inflammatory diseases)

RN 72924-08-4 CAPLUS

CN Manganese(4+), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl-κN21,κN22,κN23,κN24)tetrakis[1-methylpyridiniumato]](2-)]-, (SP-4-1)- (CA INDEX NAME)

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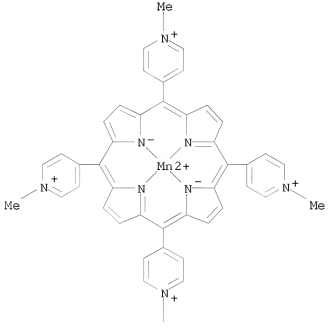

PAGE 2-A

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AB Inflammatory bowel diseases are represented by two idiopathic disorders, which include ulcerative colitis and Crohn's disease. Ulcerative colitis is restricted to the colon and involves uncertain and inflammation of the lining (mucosa) of the large intestine. Crohn's disease, on the other hand, can involve the mucosa of the small and/or large intestine and may involve deeper layers of the bowel wall. The present invention in a

preferred embodiment is a combination of 5-aminosalicylic acid or 4-aminosalicylic acid and one or more antioxidants (e.g., N-acetylcysteine) for treating such inflammatory bowel diseases. A combination of 5-aminosalicylic acid and N-acetylcysteine acted synergistically to cause a significant reduction in macroscopic injury in rats with induced colitis.

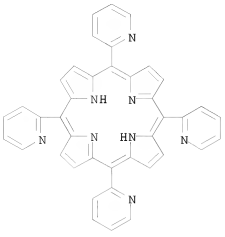
L22 ANSWER 8 OF 21 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:1123768 CAPLUS <<LOGINID::20091119>>
DOCUMENT NUMBER: 143:399867
TITLE: Pyridyl-substituted porphyrin compounds, and their therapeutic and other uses
INVENTOR(S): Williams, William; Southan, Garry; Szabo, Csaba
PATENT ASSIGNEE(S): Inotek Pharmaceuticals Corporation, USA
SOURCE: PCT Int. Appl., 118 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005097123	A2	20051020	WO 2005-US10167	20050325
WO 2005097123	A3	20051222		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2005231336	A1	20051020	AU 2005-231336	20050325
CA 2561266	A1	20051020	CA 2005-2561266	20050325
US 20060003982	A1	20060105	US 2005-90447	20050325
US 7432369	B2	20081007		
EP 1740094	A2	20070110	EP 2005-732040	20050325
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, LV, MK, YU				
CN 1997655	A	20070711	CN 2005-80017489	20050325
BR 2005009359	A	20070904	BR 2005-9359	20050325
JP 2007530695	T	20071101	JP 2007-506402	20050325
MX 2006011244	A	20070413	MX 2006-11244	20060929
IN 2006DN06237	A	20070831	IN 2006-DN6237	20061025
KR 2006135922	A	20061229	KR 2006-722445	20061027
ZA 2006009001	A	20090325	ZA 2006-9001	20061030
US 20080009473	A1	20080110	US 2007-880068	20070719

PRIORITY APPLN. INFO.:			
	US 2004-557551P	P	20040329
	US 2004-628465P	P	20041116
	US 2005-90447	A3	20050325
	WO 2005-US10167	W	20050325

OTHER SOURCE(S): MARPAT 143:399867
IT 40904-90-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(pyridyl-substituted porphyrin compds., preparation, and therapeutic and

other uses)
RN 40904-90-3 CAPLUS
CN 21H,23H-Porphine, 5,10,15,20-tetra-2-pyridinyl- (CA INDEX NAME)



AB The invention discloses pyridyl-substituted porphyrin compds., compns. comprising an effective amount of a pyridyl-substituted porphyrin compound, and methods for treating or preventing injury due to exposure to a reactive species, erectile dysfunction due to surgery, lung disease, hyperoxia, neurodegenerative disease, liver disease, myocardial damage during cardioplegia, an inflammatory condition, a reperfusion injury, an ischemic condition, a cardiovascular disease, diabetes, a diabetic complication, cancer, a side effect of cancer chemotherapy, or a radiation-induced injury, or to prolong the half-life of an oxidation-prone compound, comprising administering to a subject in need thereof an effective amount of a pyridyl-substituted porphyrin compound Compound preparation is included.

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 9 OF 21 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:1004559 CAPLUS <<LOGINID::20091119>>
DOCUMENT NUMBER: 143:292573
TITLE: Niosome having metal porphyrin complex embedded therein, process for producing the same and drug with the use thereof
INVENTOR(S): Yuasa, Makoto; Oyaizu, Kenichi; Yamaguchi, Aritomo; Hanyuu, Yukihiro; Kasahara, Kazunori; Komuro, Masayasu
PATENT ASSIGNEE(S): Japan
SOURCE: PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005084665	A1	20050915	WO 2004-JP2750	20040304
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,				

CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1731150 A1 20061213 EP 2004-717289 20040304

R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LI, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR

CN 1942184 A 20070404 CN 2004-80042914 20040304

KR 2007008623 A 20070117 KR 2006-720709 20061002

US 20080269184 A1 20081030 US 2007-591658 20070815

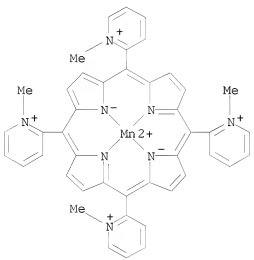
PRIORITY APPLN. INFO.: WO 2004-JP2750 W 20040304

OTHER SOURCE(S): MARPAT 143:292573

IT 65028-70-8DP, ion complexes with anionic surfactants
71794-64-4DP, ion complexes with anionic surfactants
72924-08-4DP, ion complexes with anionic surfactants
864444-61-1DP, ion complexes with anionic surfactants
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(niosome having metal porphyrin complex embedded therein, process for producing the same and drug with the use thereof)

RN 65028-70-8 CAPLUS

CN Manganese(4+), [[2,2',2'',2'''-(21H,23H-porphine-5,10,15,20-tetrayl)tetrakis[1-methylpyridiniumato]](2-)-κN21,κN22,κN23,κN24]-, (SP-4-1)- (CA INDEX NAME)



RN 71794-64-4 CAPLUS

CN Iron(4+), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl-κN21,κN22,κN23,κN24)tetrakis[1-methylpyridiniumato]](2-)]-, (SP-4-1)- (9CI) (CA INDEX NAME)

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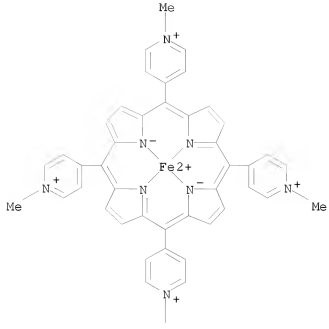

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RN 72924-08-4 CAPLUS
CN Manganese(4+), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl-κN21,κN22,κN23,κN24)tetrakis[1-methylpyridiniumato]](2-)]-, (SP-4-1)- (CA INDEX NAME)

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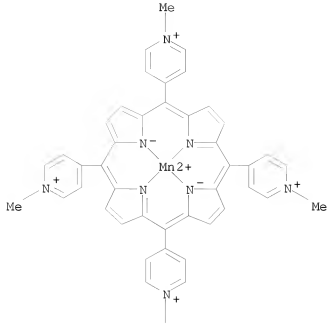

PAGE 2-A

Me

RN 864444-61-1 CAPLUS
CN Iron, [5,10,15,20-tetrakis(2-pyridinylmethyl)-21H,23H-porphinato(2-)-κN21,κN22,κN23,κN24]-, (SP-4-1)- (9CI) (CA INDEX NAME)

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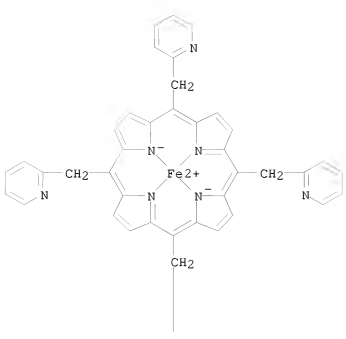

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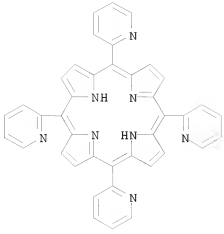
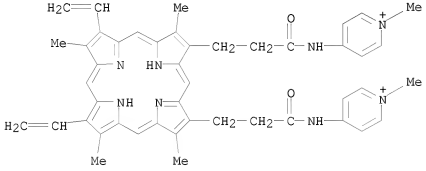
IT 40904-90-3P, 5,10,15,20-Tetrakis(2-pyridyl)porphyrin
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(niosome having metal porphyrin complex embedded therein, process for producing the same and drug with the use thereof)
RN 40904-90-3 CAPLUS
CN 21H,23H-Porphine, 5,10,15,20-tetra-2-pyridinyl- (CA INDEX NAME)



IT 823808-59-9D, alkali metal complexes, ion complexes with anionic surfactants
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(niosome having metal porphyrin complex embedded therein, process for producing the same and drug with the use thereof)
RN 823808-59-9 CAPLUS
CN Pyridinium, 4,4'-[(7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-diyl)bis[(1-oxo-3,1-propanediyl)imino]]bis[1-methyl- (9CI) (CA INDEX NAME)



AB Disclosed is a niosome having a metal porphyrin complex embedded therein which contains a cationized metal porphyrin complex and a niosome-forming substance. This niosome having a metal porphyrin complex embedded therein has an SOD activity and can target super oxide anion radical (O2-.) and surely decrease it. Because of being in the form of a niosome, it can be delivered to, for example, a cancer cell in vivo. Therefore, it can decrease O2-. in a cancer cell and exert an excellent effect of treating cancer. Moreover, it shows a selective effect and, therefore, is usable as a novel anticancer agent with no side effect. In addition, it can be hold in the blood, which makes it favorable as an antioxidant. Owing to this characteristic, it can protect the living body from in vivo disorders caused by active oxygen. For example, iron[5,10,15,20-tetrakis(2-methylpyridyl)porphyrin] was prepared, and mixed with stearic acid metal salt to form an ion complex of the porphyrin. Then, the ion complex was mixed with tween-61 and cholesterol to form a niosome to exam for its antitumor activity and antioxidant activity in

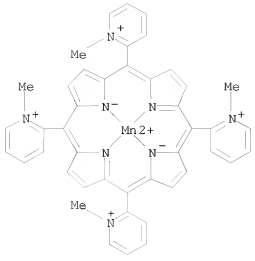
vitro.

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 10 OF 21 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:371374 CAPLUS <<LOGINID::20091119>>
DOCUMENT NUMBER: 142:428133
TITLE: Use of poly(ADP-ribose) polymerase inhibitors for prevention and treatment of diabetic and insulin resistance complications
INVENTOR(S): Brownlee, Michael
PATENT ASSIGNEE(S): Albert Einstein College of Medicine of Yeshiva University, USA
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005037990	A2	20050428	WO 2004-US16562	20040527
WO 2005037990	A3	20051229		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 20080161255	A1	20080703	US 2007-558532	20070212
PRIORITY APPLN. INFO.:			US 2003-474520P	P 20030529
			WO 2004-US16562	W 20040527

IT 65028-70-8
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(superoxide dismutase mimetic or a catalase mimetic; use of poly(ADP-ribose) polymerase inhibitors for prevention and treatment of diabetic and insulin resistance complications)
RN 65028-70-8 CAPLUS
CN Manganese(4+), [[2,2',2'',2'''-(21H,23H-porphine-5,10,15,20-tetrayl)tetrakis[1-methylpyridiniumato]](2-)-κN21,κN22,κN23,κN24]-, (SP-4-1)- (CA INDEX NAME)



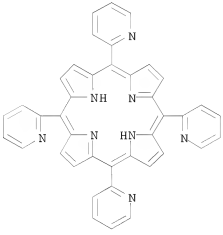
AB The present invention provides methods of inhibiting the development or progression of atherosclerotic, microvascular, or neurol. disease due to diabetes or insulin resistance in a mammal, or conditions resulting therefrom. The methods involve specifically inhibiting poly(ADP-ribose) polymerase (PARP) activity or accumulation in the mammal. Also provided are antibodies that specifically react with Nα-acetyl-Nδ(5-hydro-5-methyl)-4-imidazolone. Addnl., the invention provides methods of monitoring the effectiveness of an anti-diabetic or anti-insulin resistance treatment or an anti-diabetic or anti-insulin resistance complication treatment in a mammal. The methods involve measuring ADP-ribosylated protein levels, or measuring methylglyoxyl AGE levels in the mammal using an antibodies that specifically react with Nα-acetyl-Nδ (5-hydro-5-methyl)-4-imidazolone, or measuring GlcNAc-modified protein levels in the mammal. The present invention is based in part on the discovery that hyperglycemia-induced mitochondrial superoxide overprodn. activates poly(ADP-ribose) polymerase (PARP). PARP activation, in turn, inhibits glyceraldehyde-3-phosphate dehydrogenase (GAPDH) activity, which activates at least three of the major pathways of hyperglycemic damage in endothelial cells. In this report, the authors show that hyperglycemia-induced overprodn. of superoxide by the mitochondrial electron transport chain activates the three major pathways of hyperglycemic damage found in aortic endothelial cells (activation of protein kinase C isoforms, hexosamine pathway flux, and advanced glycation endproduct [AGE] formation) by inhibiting GAPDH activity. Inhibition of GAPDH activity also activates the proinflammatory transcription factor NF-KB, which in aortic endothelial cells is PKC dependent. Hyperglycemia-induced GAPDH inhibition was found to be a consequence of poly(ADP-ribosyl)ation of GAPDH by poly(ADP-ribose) polymerase (PARP), which was activated by DNA strand breaks produced by mitochondrial superoxide overprodn. Both the hyperglycemia-induced decrease in activity of GAPDH and its poly(ADP-ribosyl)ation were prevented by overexpression of either uncoupling protein-1 (UCP-1) or manganese superoxide dismutase (MnSOD), which decrease hyperglycemia-induced superoxide. Overexpression of UCP-1 or MnSOD also prevented hyperglycemia-induced DNA strand breaks and activation of PARP. Hyperglycemia-induced activation of each of the pathways of vascular damage was abolished by blocking PARP activity with the competitive PARP inhibitors PJ34 or INO-1001. Thus, inhibition of PARP blocks hyperglycemia-induced activation of multiple pathways of vascular damage.

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

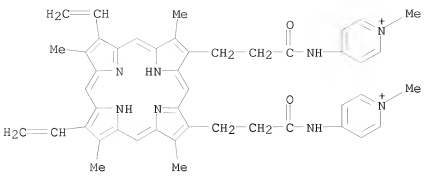
L22 ANSWER 11 OF 21 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:93865 CAPLUS <<LOGINID::20091119>>
DOCUMENT NUMBER: 142:204522
TITLE: Biodegradable, PEG-modified reconstituted hemoglobin having SOD activity, and its preparation
INVENTOR(S): Yuasa, Makoto; Midorikawa, Uichi; Yamaguchi, Aritomo; Kawakami, Hiroyoshi; Nagaoka, Shoji; Abe, Masahiko; Takebayashi, Takashi
PATENT ASSIGNEE(S): Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005027512	A	20050203	JP 2003-193140	20030707
PRIORITY APPLN. INFO.:			JP 2003-193140	20030707

IT 40904-90-3P, 5,10,15,20-Tetrakis(2-pyridyl)porphyrin 823808-59-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of biodegradable, PEG-modified cationic metalloporphyrin complex-reconstituted Hb having SOD activity)
RN 40904-90-3 CAPLUS
CN 21H,23H-Porphine, 5,10,15,20-tetra-2-pyridinyl- (CA INDEX NAME)



RN 823808-59-9 CAPLUS
CN Pyridinium, 4,4'-[(7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-diyl)bis[(1-oxo-3,1-propanediyl)imino]]bis[1-methyl- (9CI) (CA INDEX NAME)



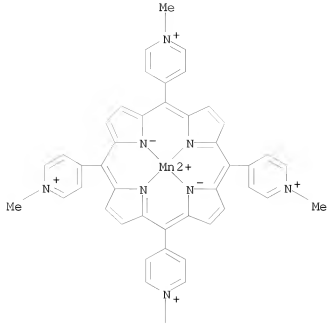
AB The PEG-modified reconstituted Hb is prepared by preparing cationized metalloporphyrin complexes, reconstituting Hb with them, and modifying the products with PEG (polyethylene glycol). Manganese[5,10,15,20-tetrakis(2-methylpyridyl)porphyrin] (preparation given) was treated with apoHb to give reconstituted Hb, which was modified with succinimide-terminated polyethylene glycol (preparation given) to give PEG-modified reconstituted Hb showing higher SOD (superoxide dismutase) activity (IC50 2.23 μM in a cytochrome c method) than that of PEG-modified Hb (IC50 16.2 μM).

L22 ANSWER 12 OF 21 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:34446 CAPLUS <<LOGINID::20091119>>
DOCUMENT NUMBER: 142:141238
TITLE: Metal porphyrin complex-embedded liposomes for pharmaceuticals
INVENTOR(S): Yuasa, Makoto; Matsukura, Noriyoshi; Yamaguchi, Aritomo; Kawakami, Hiroyoshi; Nagaoka, Shoji; Abe, Masahiko; Takebayashi, Hitoshi; Horiuchi, Aiko; Ogata, Akihiko; Sakaya, Takeshi
PATENT ASSIGNEE(S): Makoto Yuasa, Japan
SOURCE: U.S. Pat. Appl. Publ., 20 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 20050008687	A1	20050113	US 2004-788263		20040301
JP 2005041869	A	20050217	JP 2004-200163		20040707
PRIORITY APPLN. INFO.:			JP 2003-193138	A	20030707
			JP 2003-193139	A	20030707

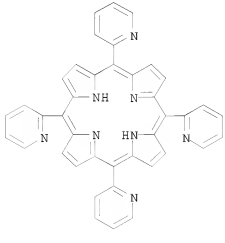
OTHER SOURCE(S): MARPAT 142:141238
IT 72924-08-4P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(metal porphyrin complex-embedded liposomes for pharmaceuticals)
RN 72924-08-4 CAPLUS
CN Manganese(4+), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl-κN21,κN22,κN23,κN24)tetrakis[1-methylpyridiniumato]](2-)]-, (SP-4-1)- (CA INDEX NAME)

PAGE 1-A

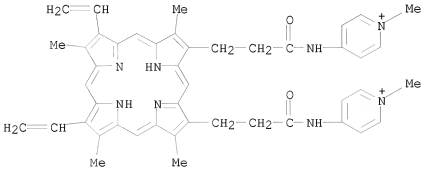


PAGE 2-A

IT 40904-90-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(metal porphyrin complex-embedded liposomes for pharmaceuticals)
RN 40904-90-3 CAPLUS
CN 21H,23H-Porphine, 5,10,15,20-tetra-2-pyridinyl- (CA INDEX NAME)



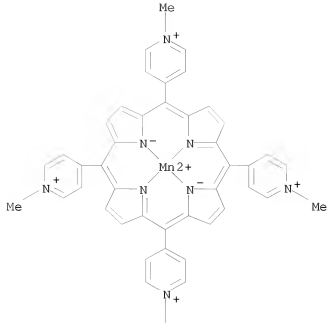
IT 823808-59-9D, metal complexes
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(metal porphyrin complex-embedded liposomes for pharmaceuticals)
RN 823808-59-9 CAPLUS
CN Pyridinium, 4,4'-[(7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-diyl)bis[(1-oxo-3,1-propanediyl)imino]]bis[1-methyl- (9CI) (CA INDEX NAME)



AB A metalloporphyrin-complex-embedded liposome comprising a cationic metalloporphyrin complex and a lipid having liposome-forming ability is disclosed. As metalloporphyrin-complex-embedded liposomes act on superoxide anion radicals (O2-), and can surely lower their concentration, they can exhibit superb effects for the treatment of cancers and have excellent characteristics as antioxidants. Thus, iron[5,10,15,20-tetrakis(2-methylpyridyl)porphyrin] was prepared starting from 2-pyridylcarboxaldehyde and pyrrole followed by reaction with FeBr2 of the resulting porphyrin and methylation. Liposomes were obtained from the above complex and stearic acid.

L22 ANSWER 13 OF 21 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2004:919707 CAPLUS <<LOGINID::20091119>>
DOCUMENT NUMBER: 142:86585
TITLE: Design of metalloporphyrin-carbohydrate conjugates for a new superoxide dismutase mimic with cellular recognition
AUTHOR(S): Asayama, Shoichiro; Mizushima, Kaori; Nagaoka, Shoji; Kawakami, Hiroyoshi
CORPORATE SOURCE: Department of Applied Chemistry, Tokyo Metropolitan University, Hachioji, Tokyo, 192-0397, Japan
SOURCE: Bioconjugate Chemistry (2004), 15(6), 1360-1363
CODEN: BCCHES; ISSN: 1043-1802
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 72924-08-4
RL: PAC (Pharmacological activity); BIOL (Biological study)
(design of metalloporphyrin-carbohydrate conjugates for a new superoxide dismutase mimic with cellular recognition)
RN 72924-08-4 CAPLUS
CN Manganese(4+), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl-κN21,κN22,κN23,κN24)tetrakis[1-methylpyridiniumato]](2-)]-, (SP-4-1)- (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

AB Metalloporphyrin-carbohydrate conjugates have been synthesized as superoxide dismutase (SOD) mimics with cellular recognition. To synthesize the conjugates, aliphatic primary amino groups for conjugation were introduced, with the cationic pyridyl groups for the SOD activity of porphyrin preserved. The reductive amination between introduced amino groups and the reducing end of lactose was then carried out. The resulting conjugates consisting of manganese (Mn)-porphyrin surrounded by several lactose mols. possessed significant SOD activity and low cytotoxicity. Compared with metalloporphyrins having no lactose mol., the recognition of the resulting conjugates by human hepatoma HepG2 cells increased. The cellular recognition was inhibited by competitors of β-galactose. These results suggest that the Mn-porphyrin-lactose conjugates recognized the hepatic lectin on the cell surface.

OS.CITING REF COUNT: 13 THERE ARE 13 CAPLUS RECORDS THAT CITE THIS RECORD (13 CITINGS)

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 14 OF 21 CAPLUS COPYRIGHT 2009 ACS on STN

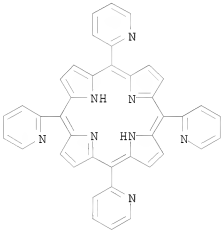
ACCESSION NUMBER: 2004:425460 CAPLUS <<LOGINID::20091119>>

DOCUMENT NUMBER: 141:166697

TITLE: New class of potent catalysts of O2•- dismutation. Mn(III) ortho-methoxyethylpyridyl- and di-ortho-methoxyethylimidazolylporphyrins

AUTHOR(S): Batinic-Haberle, Ines; Spasojevic, Ivan; Stevens,

Robert D.; Hambright, Peter; Neta, Pedatsur; Okado-Matsumoto, Ayako; Fridovich, Irwin
CORPORATE SOURCE: Department of Radiation Oncology, Duke University Medical Center, Durham, NC, 27710, USA
SOURCE: Dalton Transactions (2004), (11), 1696-1702
CODEN: DTARAF; ISSN: 1477-9226
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 141:166697
IT 40904-90-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for preparation of manganese imidazolylporphyrin/pyridylporphyrin complexes)
RN 40904-90-3 CAPLUS
CN 21H,23H-Porphine, 5,10,15,20-tetra-2-pyridinyl- (CA INDEX NAME)



AB Three new Mn(III) porphyrin catalysts of O2•- dismutation (superoxide dismutase mimics), bearing ether O atoms within their side chains, were synthesized and characterized: Mn(III) 5,10,15,20-tetrakis[N-(2-methoxyethyl)pyridinium-2-yl]porphyrin (MnTMOE-2-PyP5+), Mn(III) 5,10,15,20-tetrakis[N-methyl-N'-(2-methoxyethyl)imidazolium-2-yl]porphyrin (MnTM,MOE-2-ImP5+) and Mn(III) 5,10,15,20-tetrakis[N,N'-di(2-methoxyethyl)imidazolium-2-yl]porphyrin (MnTDMOE-2-ImP5+). Their catalytic rate consts. for O2•- dismutation (disproportionation) and the related metal-centered redox potentials vs. Normal H electrode are: log kcat = 8.04 (E1/2 = +251 mV) for MnTMOE-2-PyP5+, log kcat = 7.98 (E1/2 = +356 mV) for MnTM,MOE-2-ImP5+ and log kcat = 7.59 (E1/2 = +365 mV) for MnTDMOE-2-ImP5+. The new porphyrins were compared to the previously described SOD mimics Mn(III) 5,10,15,20-tetrakis(N-ethylpyridinium-2-yl)porphyrin (MnTE-2-PyP5+), Mn(III) 5,10,15,20-tetrakis(N-n-butylpyridinium-2-yl)porphyrin (MnTBu-2-PyP5+) and Mn(III) 5,10,15,20-tetrakis(N,N'-diethylimidazolium-2-yl)porphyrin (MnTDE-2-ImP5+). MnTMOE-2-PyP5+ has side chains of the same length and the same E1/2, as MnTBu-2-PyP5+ (kcat = 7.25, E1/2 = + 254 mV), yet it is 6-fold more potent a catalyst of O2•- dismutation, presumably due to the presence of the ether O. The log kcat vs. E1/2 relation for all Mn porphyrin-based SOD mimics thus far studied is discussed. None of the new compds. were toxic to Escherichia coli in the concentration range studied (up to 30 μM), and protected SOD-deficient E. coli in a concentration-dependent manner. At 3 μM levels, the MnTDMOE-2-ImP5+,

bearing an O atom within each of the eight side chains, was the most effective and offered much higher protection than MnTE-2-PyP5+, while MnTDE-2-ImP5+ was of very low efficacy.

OS.CITING REF COUNT: 30 THERE ARE 30 CAPLUS RECORDS THAT CITE THIS RECORD (30 CITINGS)

REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 15 OF 21 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:331568 CAPLUS <<LOGINID::20091119>>

DOCUMENT NUMBER: 140:367769

TITLE: Preparation of nanoparticles of cyclic tetrapyrrolic compounds as gene and drug delivery carriers

INVENTOR(S): Gong, Xianchang

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 16 pp.
CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

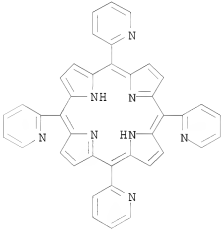
PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 20040076585	A1	20040422	US 2003-679730		20031006
PRIORITY APPLN. INFO.:			US 2002-418892P	P	20021016

OTHER SOURCE(S): MARPAT 140:367769

IT 40904-90-3P, 5,10,15,20-Tetrakis(2-pyridyl)porphyrin
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of nanoparticles of porphyrins or metal-porphyrin complexes as gene and drug delivery carriers)

RN 40904-90-3 CAPLUS

CN 21H,23H-Porphine, 5,10,15,20-tetra-2-pyridinyl- (CA INDEX NAME)



GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The present invention relates to a method using nanoparticles of cyclic tetrapyrrolic compds. [I, II, III, IV; R1-R4 = substituents on the porphyrin ring; M, M2 = 2H+ or a metal ion selected from ions of a group of metals consisting of Mg, Fe, Mn, Co, Ni, Cu, Sn, Cr, V, Ru, Pt, or Pd' M1 = H+, a metal ion selected from ions of a group of metals consisting of Li, Na, or K] as gene and drug delivery agents. Pharmaceutical agents such as nucleic acid, DNA, peptide, or protein can be packed or condensed inside nanoparticles of cyclic tetrapyrrolic compds. and delivered to cells. In vitro expts. showed nanoparticles of cyclic tetrapyrrolic compds. can be effectively delivered into cells. For example, MDA231 (human breast cancer cell line) cells were plated onto cover slips in cell culture dishes and cultured in DMEM incubated at 37 °C., 10 % CO2. A min. time period of overnight was allowed for the cells to be attached well to the cover slips. A solution of 1 mg Fe-tetrakis[di(ethylene glycol)monomethyl-2-pyridium]porphyrin pentachloride was dissolved in 50 μl water to make a stock solution which (3 μl) was transferred to mix with 3 μg pEGFP-c1 plasmid (contains GFP gene), and incubated for 24 h in the dark at room temperature to form the porphyrin nanoparticles-DNA complex which successfully transfected MDA231 (human breast cancer cell line) cells.

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L22 ANSWER 16 OF 21 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:991354 CAPLUS <<LOGINID::20091119>>

DOCUMENT NUMBER: 140:34927

TITLE: Preparation and electrochemical properties of substituted porphyrins and their manganese(III) complexes as SOD mimics

INVENTOR(S): Batinic-Haberle, Ines; Spasojevic, Ivan; Fridovich, Irwin

PATENT ASSIGNEE(S): Duke University, USA

SOURCE: PCT Int. Appl., 46 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003103680	A1	20031218	WO 2003-US18099	20030609
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
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AU 2003237500	A1	20031222	AU 2003-237500	20030609
US 20040058902	A1	20040325	US 2003-456956	20030609
US 7485721	B2	20090203		
EP 1513537	A1	20050316	EP 2003-736949	20030609
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2006501163	T	20060112	JP 2004-510799	20030609

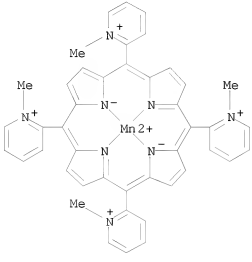
US 20080207582 A1 20080828 US 2008-25612 20080204
PRIORITY APPLN. INFO.: US 2002-386454P P 20020607
US 2003-456956 A3 20030609
WO 2003-US18099 W 20030609

OTHER SOURCE(S): MARPAT 140:34927

IT 65028-70-8
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); FORM (Formation, nonpreparative); PROC (Process)
(elec. potential of couple containing of manganese (N-alkylpyridyl)porphyrins in relation to alkyl chain length)

RN 65028-70-8 CAPLUS

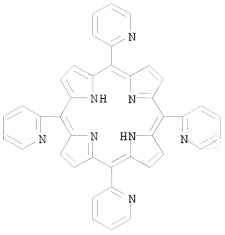
CN Manganese(4+), [[2,2',2'',2'''-(21H,23H-porphine-5,10,15,20-tetrayl)tetrakis[1-methylpyridiniumato]](2-)-κN21,κN22,κN23,κN24]-, (SP-4-1)- (CA INDEX NAME)



IT 40904-90-3, meso-Tetrakis(2-pyridyl)porphyrin
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for preparation of (N-alkylpyridyl)porphyrins and their manganese(III) complexes)

RN 40904-90-3 CAPLUS

CN 21H,23H-Porphine, 5,10,15,20-tetra-2-pyridinyl- (CA INDEX NAME)



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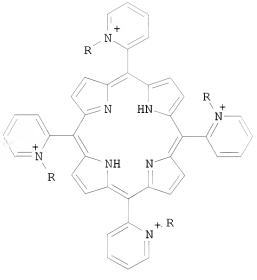
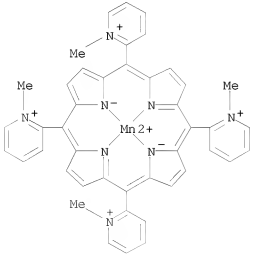


I

AB Ortho isomers of meso tetrakis N-alkylpyridylporphyrins (I; R = Me, Et, Pr, Bu, n-hexyl, and n-octyl) and their Mn(III) complexes were synthesized and characterized by elemental anal., UV/visible spectroscopy, electrospray ionization mass spectrometry and electrochem. An increase in the number of carbon atoms in the alkyl chains from 1 to 8 is accompanied by an increase in: (a) lipophilicity measured by the chromatog. retention factor, Rf; (b) metal-centered redox potential, E1/2 from +220 to +367 mV vs. normal H electrode, and (c) proton dissociation constant, pKa2 from 10.9 to 13.2. A linear correlation was found between E1/2 and Rf of the Mn(III) porphyrins and between the pKa2 and Rf of the metal-free compds. As the porphyrins become increasingly more lipophilic, the decrease in hydration disfavors the separation of charges, while enhancing the electron-withdrawing effect of the pos. charged pyridyl nitrogen atoms. Consequently, the E1/2 increases linearly with the increase in pKa2, a trend in porphyrin

basicity opposite from the one the authors previously reported for other water-soluble Mn(III) porphyrins. All of these Mn(III) porphyrins are potent catalysts for superoxide dismutation (disproportionation). Despite the favorable increase of E1/2 with the increase in chain length, the catalytic rate constant decreases from Me (log kcat = 7.79) to Bu, and then increases such that the n-octyl is as potent an SOD mimic as are the Me and Et compds. The observed behavior originates from an interplay of hydration and steric effects that modulate electronic effects.
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

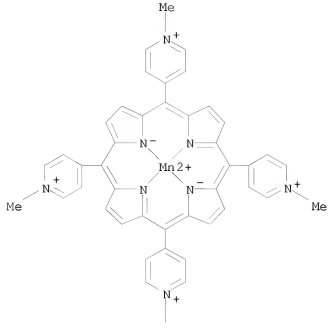
L22 ANSWER 17 OF 21 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2003:156328 CAPLUS <<LOGINID::20091119>>
DOCUMENT NUMBER: 139:2571
TITLE: Synthesis of reconstituted hemoglobins containing metalloporphyrin derivatives and SOD activity
AUTHOR(S): Yuasa, Makoto; Yamaguchi, Aritomo; Mikami, Satoshi; Midorikawa, Uichi; Kawakami, Yoshihiro; Nagaoka, Shoji
CORPORATE SOURCE: Department of Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Noda, 278-8510, Japan
SOURCE: Journal of Oleo Science (2003), 52(3), 149-157
CODEN: JOSOAP; ISSN: 1345-8957
PUBLISHER: Japan Oil Chemists' Society
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
IT 65028-70-8 72924-08-4
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(synthesis of reconstituted Hbs containing metalloporphyrin derivs. and SOD activity)
RN 65028-70-8 CAPLUS
CN Manganese(4+), [[2,2',2'',2'''-(21H,23H-porphine-5,10,15,20-tetrayl)tetrakis[1-methylpyridiniumato]](2-)-κN21,κN22,κN23,κN24]-, (SP-4-1)- (CA INDEX NAME)



RN 72924-08-4 CAPLUS
CN Manganese(4+), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl-κN21,κN22,κN23,κN24)tetrakis[1-

methylpyridiniumato]](2-)]-, (SP-4-1)- (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

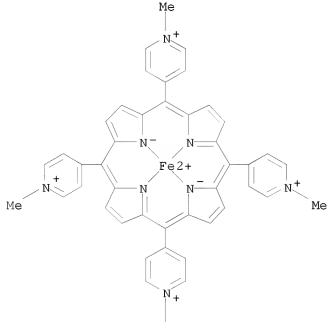
AB To establish a method for the effective mimicking superoxide dismutase (SOD) which accelerate scavenging of the superoxide anion radical (O2-·), reconstituted Hbs each possessing the apoprotein of Hbs as carriers and various metalloporphyrins as active sites were synthesized and their SOD activity was determined in each case. The Hbs containing iron- and manganese-protoporphyrin IX (2-4) had no significant SOD activity but did so when containing cationic iron- and manganese-porphyrins (5-7). Min. IC50 as indicator of SOD activity was 1.8. Td as indicator of hydrogen peroxide resistance was always nearly 10 times that cationic metalloporphyrins as an SOD mimic. The reconstituted Hbs with cationic metalloporphyrins (5-7) are shown by the present results to be potentially capable of functioning as SOD mimics.

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L22 ANSWER 18 OF 21 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2001:431410 CAPLUS <<LOGINID::20091119>>
DOCUMENT NUMBER: 135:298269
TITLE: Cell death by reactive oxygen species generated from water-soluble cationic metalloporphyrins as superoxide dismutase mimics
AUTHOR(S): Ohse, T.; Nagaoka, S.; Arakawa, Y.; Kawakami, H.;

Nakamura, K.
CORPORATE SOURCE: Department of Applied Chemistry, Tokyo Metropolitan University, Tokyo, Hachioji, 192-0397, Japan
SOURCE: Journal of Inorganic Biochemistry (2001), 85(2-3), 201-208
CODEN: JIBIDJ; ISSN: 0162-0134
PUBLISHER: Elsevier Science Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 71794-64-4 72924-08-4
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cell death by reactive oxygen species generated from water-soluble cationic metalloporphyrins as superoxide dismutase mimics in relation to anticancer activity and Fenton reaction)
RN 71794-64-4 CAPLUS
CN Iron(4+), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl-κN21,κN22,κN23,κN24)tetrakis[1-methylpyridiniumato]](2-)]-, (SP-4-1)- (9CI) (CA INDEX NAME)

PAGE 1-A



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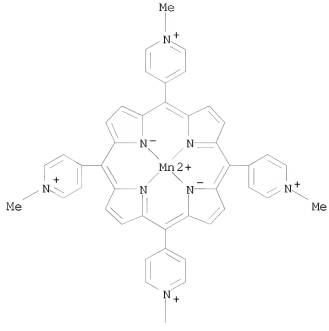
RN 72924-08-4 CAPLUS
CN Manganese(4+), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl-κN21,κN22,κN23,κN24)tetrakis[1-

methylpyridiniumato]](2-)]-, (SP-4-1)- (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

AB The authors investigated the effect on cell death of reactive oxygen species induced by water-soluble cationic metalloporphyrins with superoxide dismutase (SOD) activity. The SOD activity of [5,10,15,20-tetrakis(4-N-methylpyridyl)]porphine (MPy4P) containing Fe, Mn or Cu was measured using a cytochrome c assay by the xanthine/xanthine oxidase system and stopped-flow kinetic anal. Cell viability of four cell lines treated with metalloporphyrins, mitomycin c (MMC), or cisplatin was estimated by a trypan blue exclusion assay. FeMPy4P with a high SOD activity showed a significant cytotoxicity compared with MMC and cisplatin, while CuMPy4P without SOD activity exhibited no cytotoxicity. However, MnMPy4P showing an SOD activity as high as that of FeMPy4P did not indicate cytotoxicity. These findings suggest that FeMPy4P as SOD mimic converts intracellular O2·- to H2O2 and that it rapidly reacts with H2O2 to form ·OH, causing DNA damage and inducing cell death. On the other hand, MnMPy4P did not participate in the Fenton reaction, so that DNA damage in the cells treated with MnMPy4P was not observed In addition, the cytotoxicity by the metalloporphyrin was inversely correlated with the SOD activity of the cells and the selective damage at cellular and DNA levels was confirmed. The authors believe that for an anticancer drug with antioxidant ability, O2·- is useful as a target mol. to induce selective cell death between cancer and normal cells and that metalloporphyrins showing SOD activity and Fenton-like reaction are a new

class of anticancer agents.

OS.CITING REF COUNT: 20 THERE ARE 20 CAPLUS RECORDS THAT CITE THIS RECORD (20 CITINGS)

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 19 OF 21 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2000:631894 CAPLUS <<LOGINID::20091119>>

DOCUMENT NUMBER: 133:232812

TITLE: Cationic porphyrin complexes and anticancer compositions containing them

INVENTOR(S): Kawakami, Hiroyoshi; Nagaoka, Akiji; Nakamura, Kunie; Ose, Toshiyuki; Murase, Toru

PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000247978	A	20000912	JP 1999-47517	19990225
PRIORITY APPLN. INFO.:			JP 1999-47517	19990225

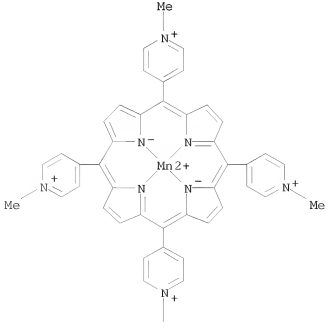
OTHER SOURCE(S): MARPAT 133:232812

IT 72924-08-4
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(preparation of cationic porphyrin complexes as anticancer agents)

RN 72924-08-4 CAPLUS

CN Manganese(4+), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl-κN21,κN22,κN23,κN24)tetrakis[1-methylpyridiniumato]](2-)]-, (SP-4-1)- (CA INDEX NAME)

PAGE 1-A



Me

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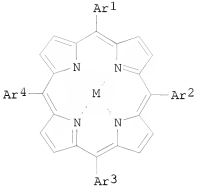


I

AB Anticancer agents contain porphyrin complexes I [M = metal; Ar1-Ar4 = (substituted) carbo- or heterocyclic aromatic group; ≥1 of Ar1-Ar4 have cationic group]. I are selectively accumulated in cancer cells and convert active O into OH radical. PhCHO and pyridine-4-aldehyde were condensed with pyrrole, quaternized by Me p-toluenesulfonate, and complexed with FeCl3 to give bis(N-methyl-4-pyridyl)diphenylporphyrin Fe complex (II) and tris(N-methyl-4-pyridyl)monophenylporphyrin Fe complex. II in vitro showed almost complete control of LLC-WRC-256 cells in 24 h at 100 μg/mL.

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

L22 ANSWER 20 OF 21 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1999:311205 CAPLUS <<LOGINID::20091119>>
DOCUMENT NUMBER: 130:331880
TITLE: Meso-tetrakis(N-alkylpyridinium)porphyrins and metalloporphyrins as antioxidants
INVENTOR(S): Fridovich, Irwin; Batinic-Haberle, Ines
PATENT ASSIGNEE(S): Duke University, USA
SOURCE: PCT Int. Appl., 81 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9923097	A1	19990514	WO 1998-US23287	19981103

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG,

KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW

RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2309154	A1	19990514	CA 1998-2309154	19981103
AU 9912979	A	19990524	AU 1999-12979	19981103
AU 737650	B2	20010823		
EP 1045851	A1	20001025	EP 1998-956457	19981103
EP 1045851	B1	20030423		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001521939	T	20011113	JP 2000-518967	19981103
AT 238307	T	20030515	AT 1998-956457	19981103
ES 2198767	T3	20040201	ES 1998-956457	19981103
IL 135949	A	20080210	IL 1998-135949	19981103
US 20020042407	A1	20020411	US 2001-880125	20010614
US 6916799	B2	20050712		
US 20060074062	A1	20060406	US 2005-127302	20050512
US 20070179124	A1	20070802	US 2006-532408	20060915
US 20080113956	A1	20080515	US 2008-16157	20080117

PRIORITY APPLN. INFO.:

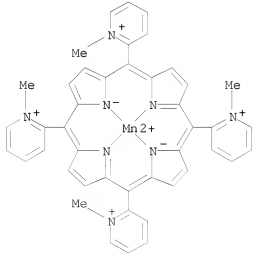
US 1997-64116P	P	19971103
US 1998-184982	B1	19981103
WO 1998-US23287	W	19981103
US 2001-880125	A1	20010614
US 2005-127302	A1	20050512
US 2006-532408	A1	20060915

OTHER SOURCE(S): MARPAT 130:331880

IT 65028-70-8 72924-08-4
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
(formation in electrochem. redox couple)

RN 65028-70-8 CAPLUS

CN Manganese(4+), [[2,2',2'',2'''-(21H,23H-porphine-5,10,15,20-tetrayl)tetrakis[1-methylpyridiniumato]](2-)-κN21,κN22,κN23,κN24]-, (SP-4-1)- (CA INDEX NAME)



RN 72924-08-4 CAPLUS

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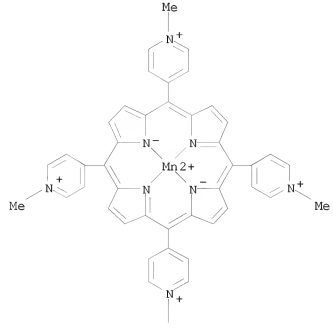
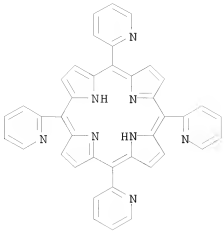
PAGE 1-A



PAGE 2-A

IT 40904-90-3P, meso-Tetrakis(2-pyridyl)porphyrin
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, N-alkylation, and chlorination with N-chlorosuccinimide)
RN 40904-90-3 CAPLUS
CN 21H,23H-Porphine, 5,10,15,20-tetra-2-pyridinyl- (CA INDEX NAME)



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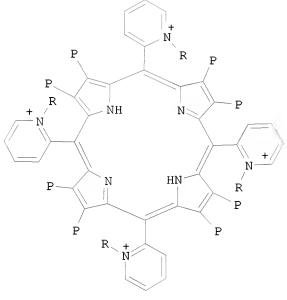

I

AB The present invention relates, in general, to a method of modulating physiol. and pathol. processes and, in particular, to a method of modulating cellular levels of oxidants and thereby processes in which such oxidants are a participant. The invention also relates to compds. and compns. suitable for use in such methods. Claimed are meso-substituted tetrakis(N-alkylpyridinium-2-yl)porphyrins I (R = C1-8 alkyl, P = electron withdrawing group or H), their meta-pyridinium analogs, compds. wherein when R = Me and each P = H, the compound is complexes to Mn, Fe, Cu, Co, Ni, or Zn, and atropisomer mixts. of the compds. Compds. I, meta-pyridinium analogs, the metal complexes, and pharmaceutically acceptable salts are antioxidants, useful for protecting cells from oxidant-induced toxicity. The same compds. are useful in treating a pathol. condition of a patient

resulting from degradation of nitrosyl radical or a biol. active form thereof. Inflammatory lung diseases, including hyper-reactive airway disease and asthma, may also be treated by said compds. Exptl. details for the preparation by standard procedures of the substituted porphyrins, chlorinated derivs., and their metal complexes are given. Reversible metal-centered electrochem. redox behavior was observed for all metalloporphyrin products. The metalloporphyrins are potent inhibitors of lipid peroxidn. Superoxide dismutase (SOD) activity studies of the compds. in vitro and in vivo are discussed. A comparison is made of the antioxidant properties of the metalloporphyrins and their redox potentials. The Mn complex of I (R = Et) is demonstrated to be effective in attenuating oxidant stress mediated by tissue injury and for treatment of bronchopulmonary dysplasia. The effects of the Mn complex of I (R = Me) on vascular tone and in regulation of airway reactivity are demonstrated.

OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD (7 CITINGS)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 21 OF 21 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1996:529503 CAPLUS <<LOGINID::20091119>>

DOCUMENT NUMBER: 125:177401

ORIGINAL REFERENCE NO.: 125:33047a,33050a

TITLE: Complexes of dermatan sulfate and drugs with improved pharmacokinetics

INVENTOR(S): Ranney, David F.

PATENT ASSIGNEE(S): Access Pharmaceuticals, Inc., USA

SOURCE: PCT Int. Appl., 227 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9619242	A1	19960627	WO 1994-US14776	19941222
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RW: KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2208566	A1	19960627	CA 1994-2208566	19941222
AU 9515537	A	19960710	AU 1995-15537	19941222
AU 709008	B2	19990819		
EP 794796	A1	19970917	EP 1995-907242	19941222
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 10510831	T	19981020	JP 1994-519745	19941222

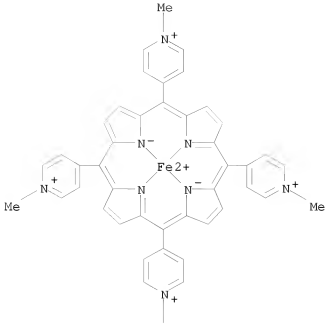
PRIORITY APPLN. INFO.: WO 1994-US14776 19941222

IT 71794-64-4DP, complex with heparin
RL: SPN (Synthetic preparation); PREP (Preparation)
(complexes of dermatan sulfate and drugs with improved pharmacokinetics)

RN 71794-64-4 CAPLUS

CN Iron(4+), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl-κN21,κN22,κN23,κN24)tetrakis[1-methylpyridiniumato]](2-)]-, (SP-4-1)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

AB A drug carrier composition comprising a drug complexed with dermatan sulfate (I), with a sulfur content of up to 9 %, is disclosed. The compns. are administered in a fashion that allows efficient vascular access and induced the following in vivo effects (1) rapid partial or total endothelial envelopment of the drug (diagnostic) carrier: (2) sequestration of the carrier and protection of the entrapped agent or blood vascular clearance at an early time (2 min) when the endothelial pocket which envelops the carrier still invaginates into the vascular compartment; (3) acceleration of the carrier's transport across and/or through the vascular endothelium or subendothelial structures into the tissue compartment (intestitium); and (4) improvement of the efficiency with which the drug migrates across the endothelium of epi-endothelial or subendothelial barriers, such that a lower total drug dose is required to obtain the desired effect relative to that required for standard agents. Analogous tissue uptake is described for transepithelial migration into the lungs, bladder and bowel. A solution of 10 mg I/mL was stirred with a solution of 4 mg doxorubicin (II)/mL and homogenized to obtain I:II complex. The solution was filtered , followed by addition of 3 mL of 500 mg/mL saccharose and 1.5 mL of 10 mg/mL PEG, the resulting solution was then filtered and lyophilized. The MIC50 of the complex against II-resistant human breast carcinoma cell was 0.81-0.89 as compared to 22.28 μM for II alone.

OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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                OR 71794-64-4/BI OR 72924-08-4/BI OR 7789-46-0/BI OR 80-97-7/BI
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                 SET DETAIL OFF
                 E LIPOSOME+ALL/CT
                 SET LINE LOGIN
                 SET DETAIL LOGIN
L15            3 SEA FILE=CAPLUS SPE=ON  ABB=ON  PLU=ON  L13 AND (NIOSOME* OR
                 LIPOSOME  OR "LIPOSOMES" OR "PHARMACEUTICAL LIPOSOMES")
                 D 1-3 IBIB HITSTR ABS
L16            3 SEA FILE=CAPLUS SPE=ON  ABB=ON  PLU=ON  L14 AND (NIOSOME* OR
                 LIPOSOME  OR "LIPOSOMES" OR "PHARMACEUTICAL LIPOSOMES")
                 SET LINE 250
                 SET DETAIL OFF
                 E NONIONIC SURFACTANT+ALL/CT
                 SET LINE LOGIN
                 SET DETAIL LOGIN
L17        44526 SEA FILE=CAPLUS SPE=ON  ABB=ON  PLU=ON  "SURFACTANTS" (L)
                 "NONIONIC"
L18            1 SEA FILE=CAPLUS SPE=ON  ABB=ON  PLU=ON  L17 AND L14
                 D IBIB
                 SET LINE 250
                 SET DETAIL OFF
                 E SUPEROXIDE DISMUTASE+ALL/CT
                 SET LINE LOGIN
                 SET DETAIL LOGIN
                 E SUPEROXIDE DISMUTASE/IT
L19        60026 SEA FILE=CAPLUS SPE=ON  ABB=ON  PLU=ON  SUPEROXIDE DISMUTASE
                 OR SUPEROXIDEDISMUTASE
                 SET LINE 250
                 SET DETAIL OFF
                 E CANCER+ALL/CT
                 SET LINE LOGIN
                 SET DETAIL LOGIN
L20       738805 SEA FILE=CAPLUS SPE=ON  ABB=ON  PLU=ON  (CANCER OR "NEOPLASM"
                 OR MALIGNAN*)
L21           28 SEA FILE=CAPLUS SPE=ON  ABB=ON  PLU=ON  L14 AND (THU/RL OR
                 PAC/RL)
L22           21 SEA FILE=CAPLUS SPE=ON  ABB=ON  PLU=ON  L21 AND (L19 OR L20)
                 D 1-21 IBIB HITSTR ABS
```